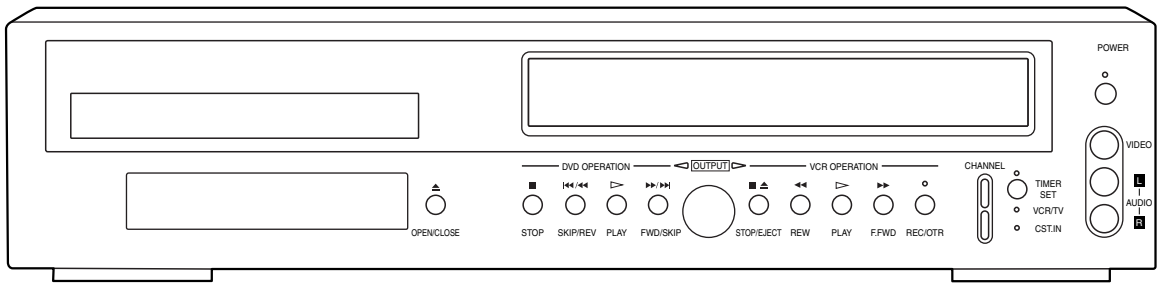
Symphonic

SERVICE MANUAL

This service manual supplement (WF802) contains only the difference from the original model.
For all other data, see the original service manual for EWD2202.

DVD PLAYER & VIDEO CASSETTE RECORDER

WF802



IMPORTANT SAFETY NOTICE

Proper service and repair is important to the safe, reliable operation of all Funai Equipment. The service procedures recommended by Funai and described in this service manual are effective methods of performing service operations. Some of these service special tools should be used when and as recommended.

It is important to note that this service manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It also is important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Funai could not possibly know, evaluate and advice the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Funai has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Funai must first use all precautions thoroughly so that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

TABLE OF CONTENTS

Block Diagrams 1-1
Schematic Diagrams / CBA's and Test Points 2-1
Different parts from original model (EWD2202) 3-1

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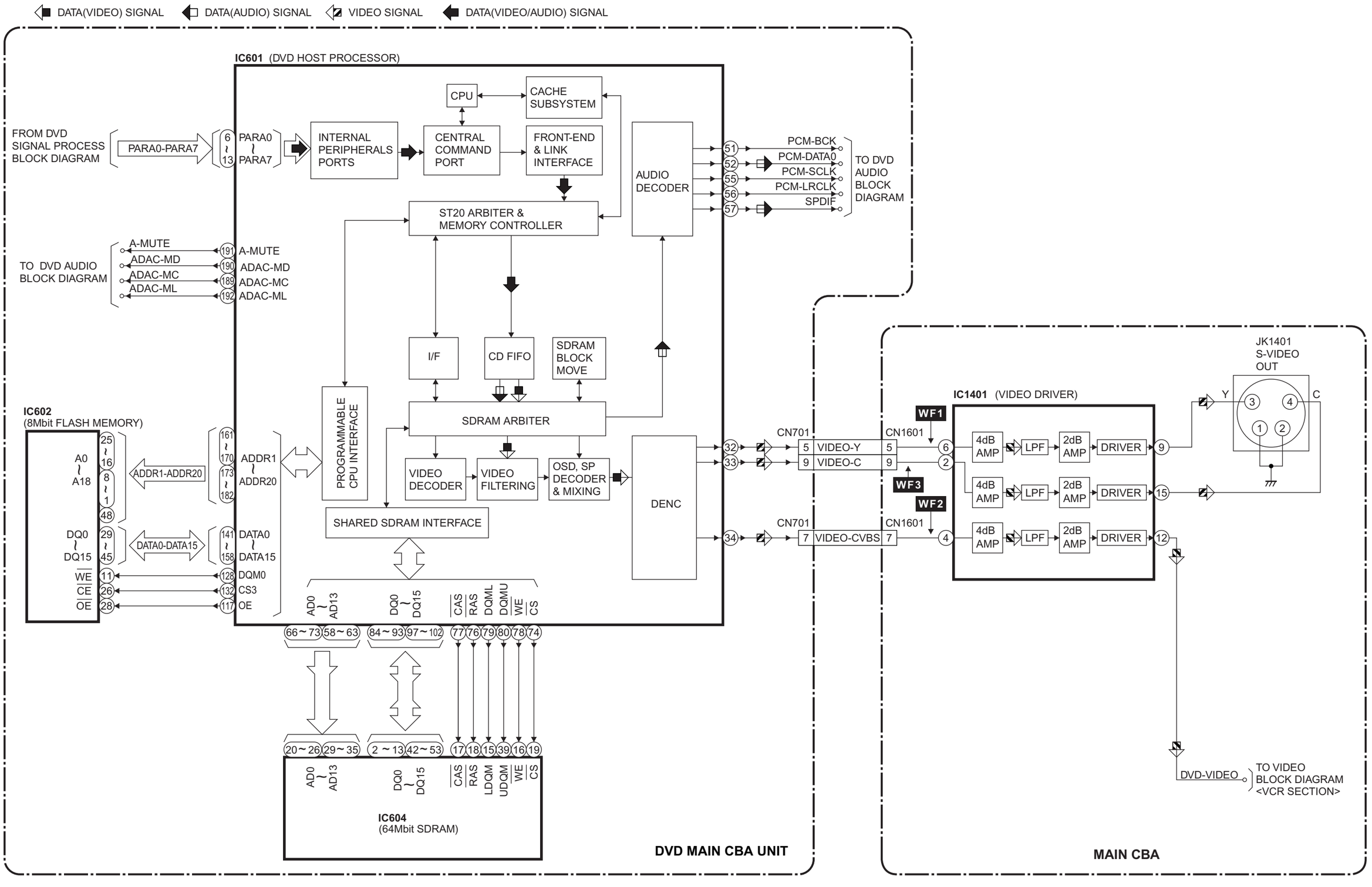
"DTS" and "DTS Digital Out" are trademarks of Digital Theater Systems Inc.

DVD Video Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

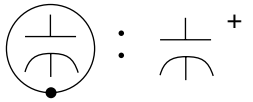
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 - 80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

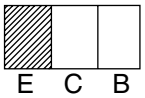
CBA Symbols

(Top View) (Bottom View)



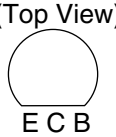
Electrolytic Capacitor

(Bottom View)



Transistor or Digital Transistor

(Top View)



NPN Transistor

(Top View)

PNP Transistor

(Top View)

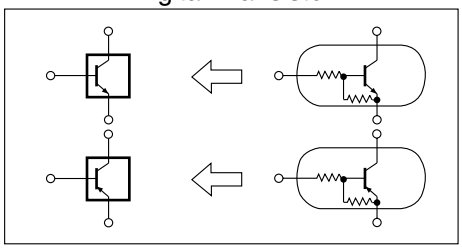
NPN Digital Transistor

(Top View)

PNP Digital Transistor

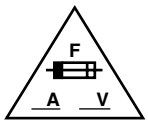
Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

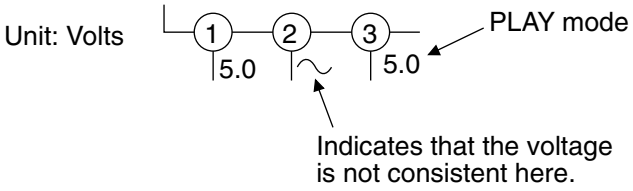
(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

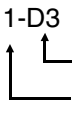
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP

6. Voltage indications for PLAY mode on the schematics are as shown below:

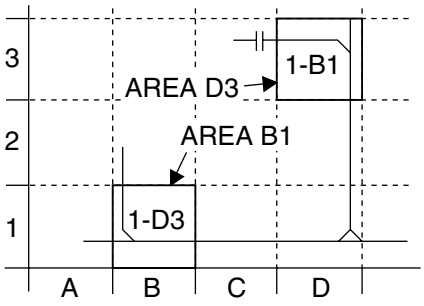


7. How to read converged lines



Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. Test Point Information

: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

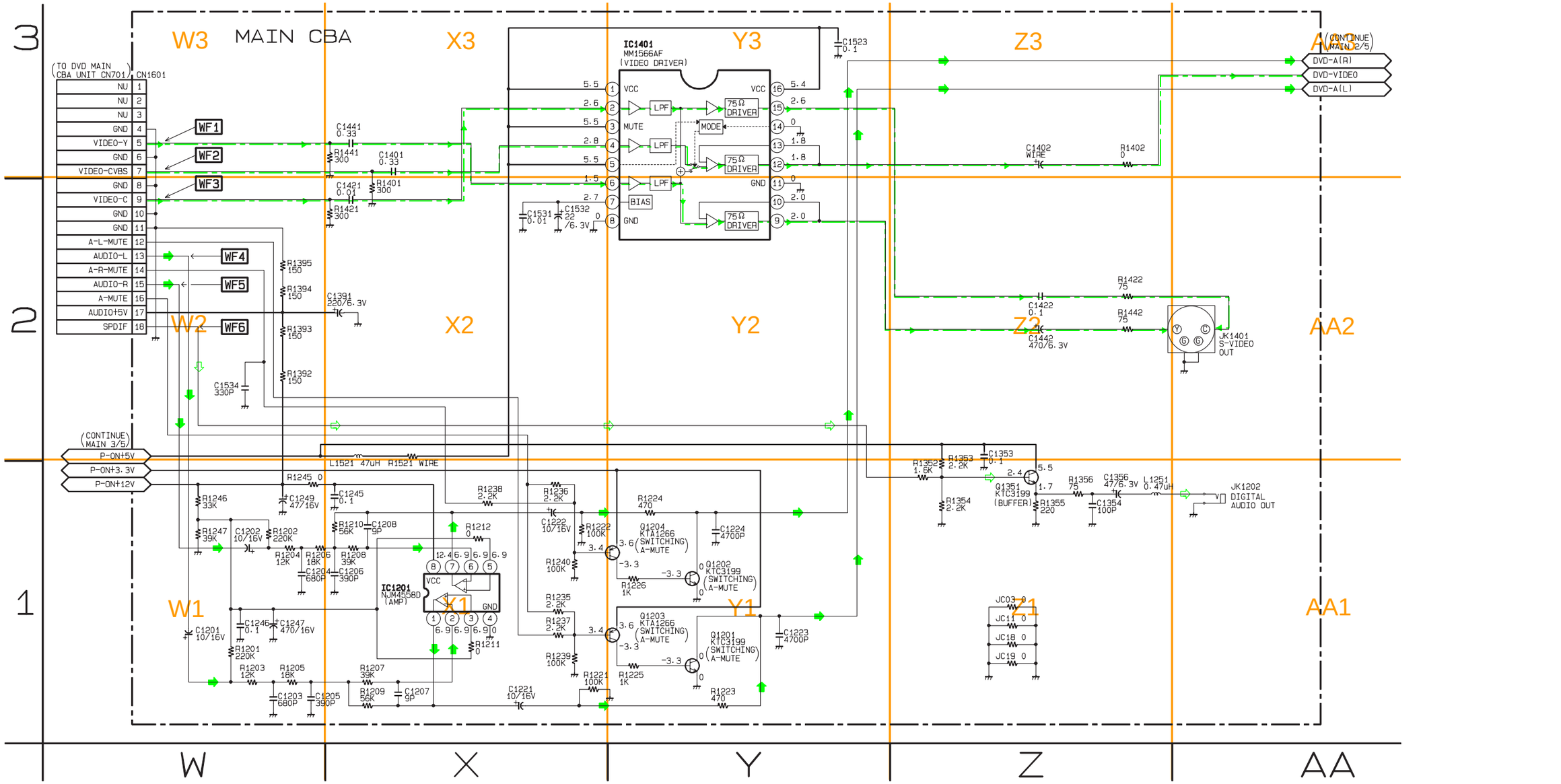
: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

Main 5/5 Schematic Diagram < VCR Section >

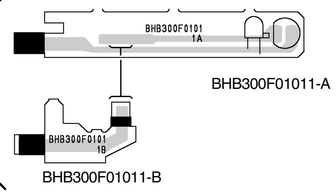
Main 5/5 Schematic Diagram

Ref. No	Position
ICS	
IC1201	X-1
IC1401	Y-3
TRANSISTORS	
Q1201	Y-1
Q1202	Y-1
Q1203	Y-1
Q1204	Y-1
Q1351	Z-1
CONNECTORS	
CN1601	W-3



Main CBA Top View

Sensor CBA Top View (End Sensor)



CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

WF1
ⓘTP751
V-OUT

WF5
ⓘTP301
C-PB

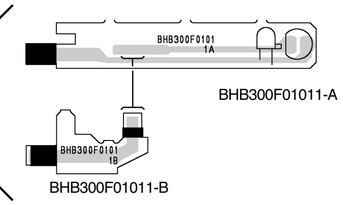
WF2
ⓘTP302
RF-SW

ⓘTP502
S-INH

ⓘTP303
CTL

VR501
SW-P

Sensor CBA Top View (Start Sensor)



Main CBA Bottom View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

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NOTE :
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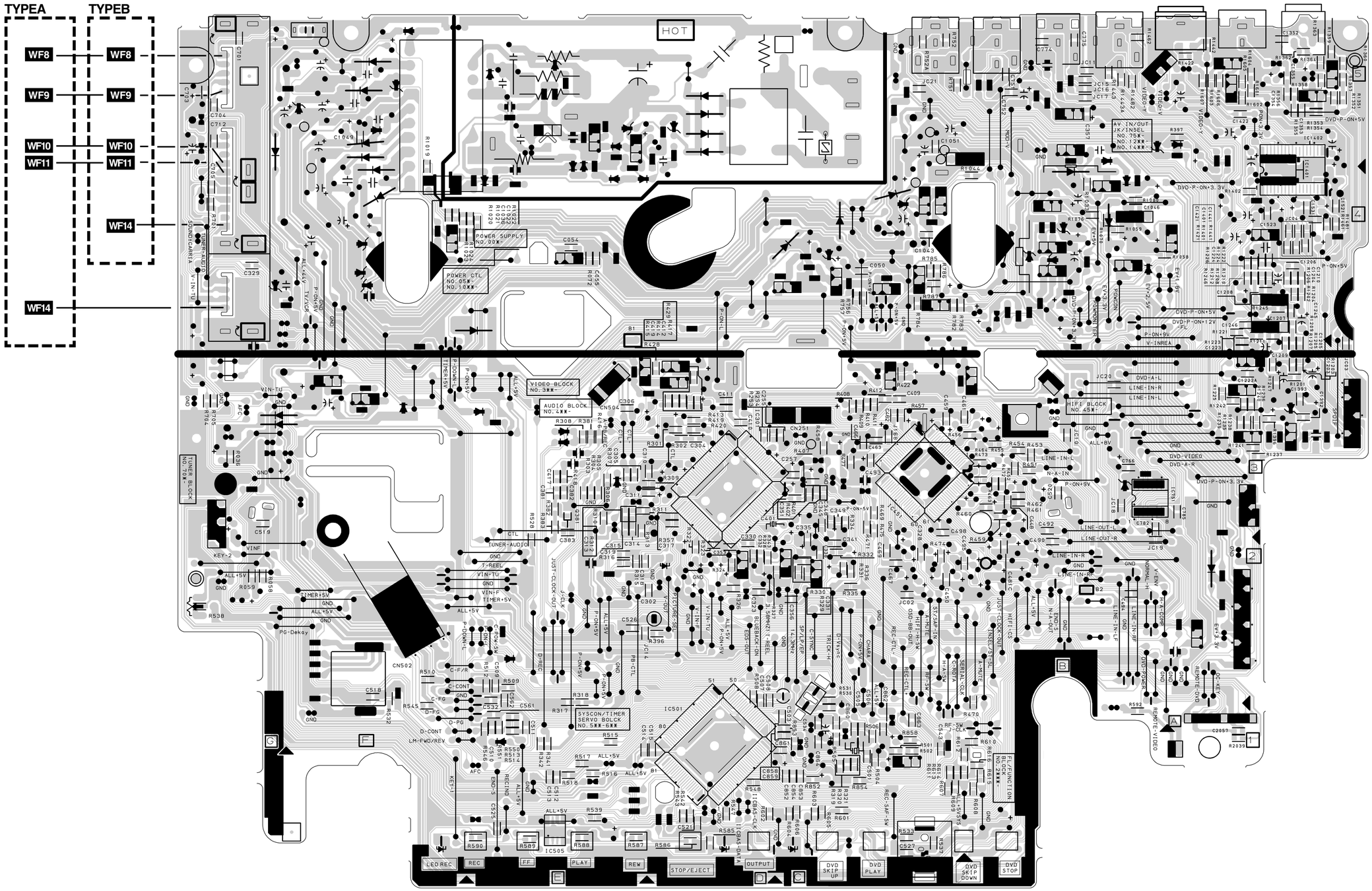
Main CBA

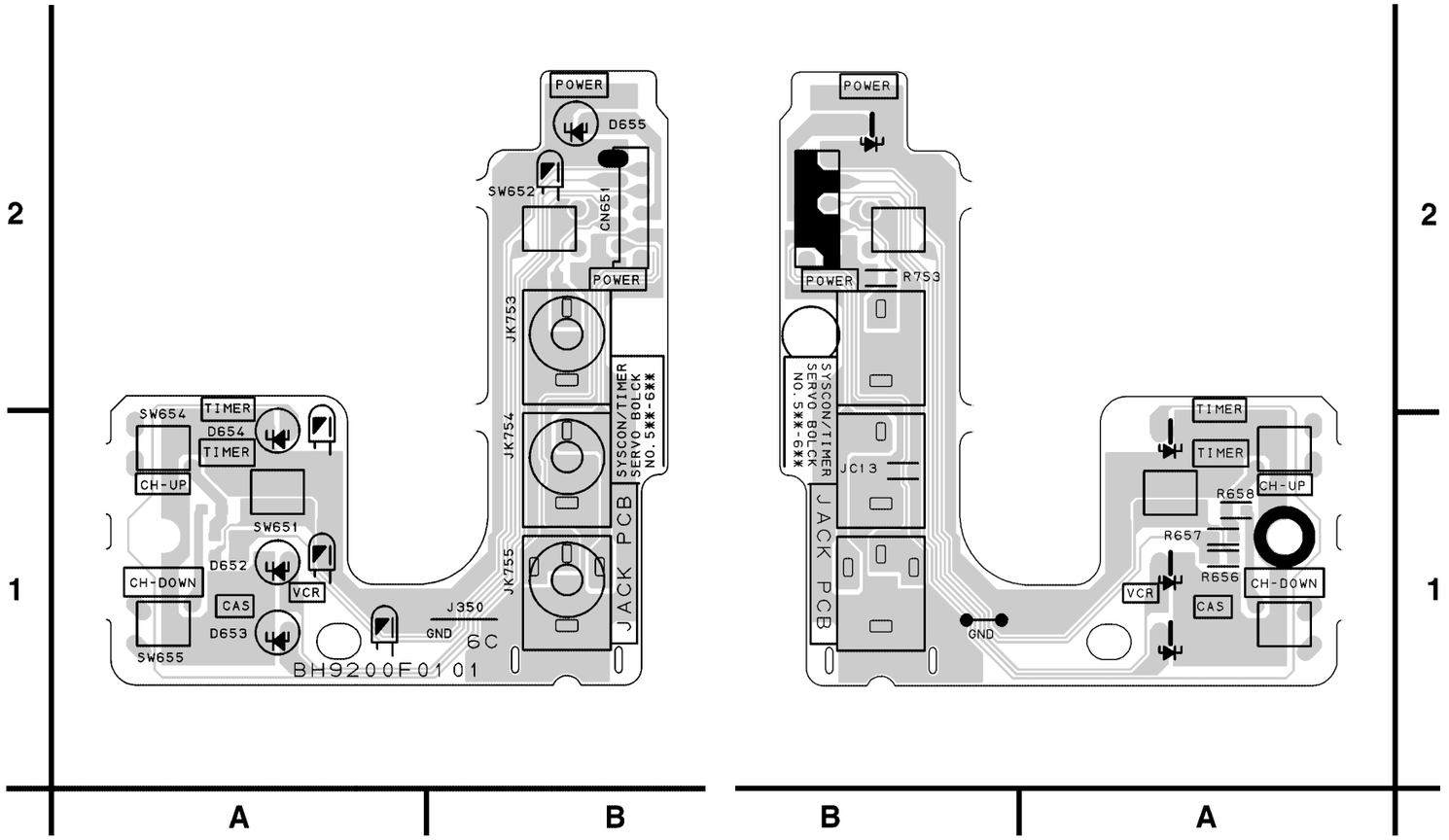
Ref.No	Position
ICS	
IC301	D-3
IC451	C-3
IC501	D-1
IC751	A-3
IC1001	E-4
IC1002	A-4
IC1003	B-5
IC1004	B-5
IC1006	F-4
IC1201	A-4
IC1401	A-5
TRANSISTORS	
Q052	C-4
Q055	C-4
Q056	C-4
Q060	E-4
Q301	D-2
Q302	C-2
Q303	C-2
Q391	B-5
Q421	C-3
Q422	B-3
Q423	E-3
Q424	D-3
Q425	D-3
Q501	C-1
Q503	B-3
Q504	F-3
Q506	D-2
Q760	A-2
Q762	C-4
Q763	C-4
Q1001	E-5
Q1002	C-4
Q1003	E-5
Q1004	B-4
Q1005	B-4
Q1006	C-4
Q1007	B-4
Q1008	E-5
Q1011	B-4
Q1015	A-4
Q1201	A-3
Q1202	A-4
Q1203	A-3
Q1204	A-3
Q1351	A-5
CONNECTORS	
CN251	C-3
CN501	B-3
CN502	F-2
CN504	E-3
CN505	F-3
CN651	F-2
CN1001	A-2
CN1601	A-3
CN2002	A-3
CN2003	A-1
VARIABLE RESISTORS	
VR501	F-2
TEST POINTS	
TP301	B-2
TP302	B-2
TP303	F-3
TP502	B-2
TP505	F-3
TP506	F-2
TP507	B-3
TP751	C-5

Note:
The Tuner Unit (TU701) is either type A or type B.
Wave Form will be different. It depends on the type of tuner used on the unit you are servicing.



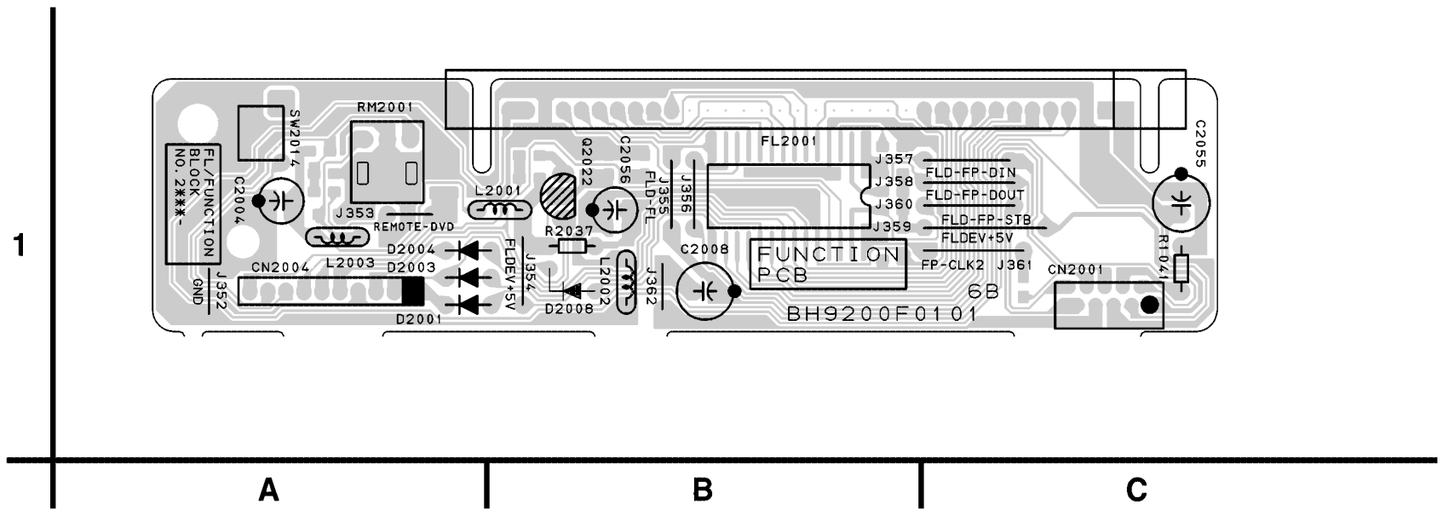
Jack CBA Top View

Jack CBA Bottom View

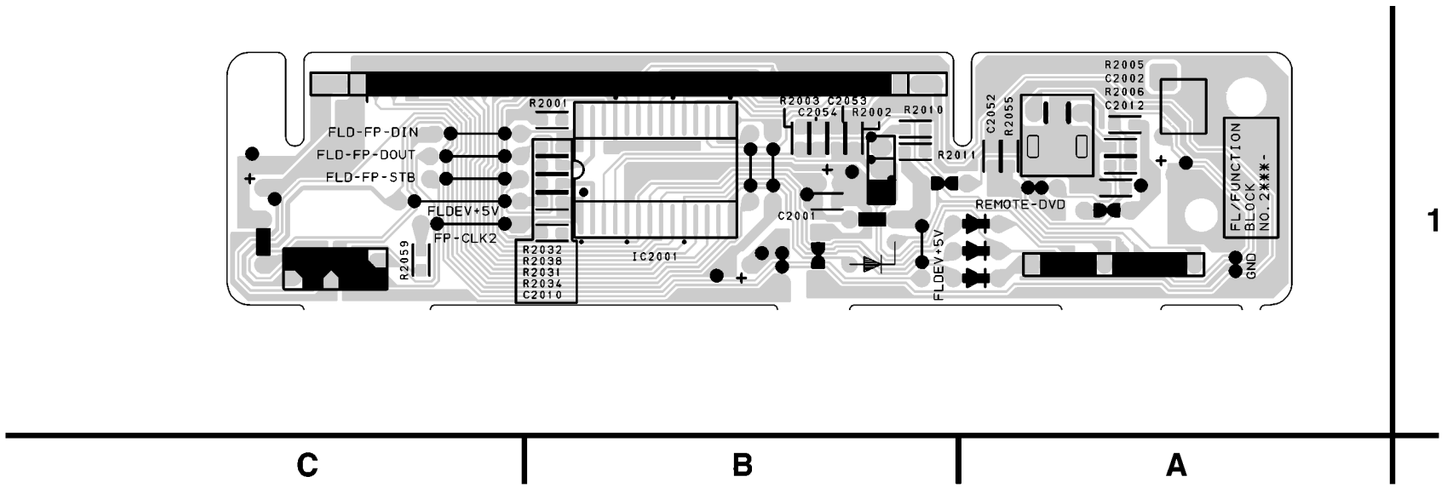


BH9200F01016-C

Function CBA Top View



Function CBA Bottom View



BH9200F01016-B

Different parts from original model (EWD2202)

Ref. No.	Description	Part No.
Mechanical Parts		
A1X	FRONT ASSEMBLY H9223UD	0VM203688
A2	TOP COVER H9225UD	0VM305415
A4	PANEL, REAR H9223UD	0VM203687
A8	DOOR, CASSETTE H9223UD	0VM413780
A10⚠	LABEL, RATING H9223UD	---------
A15	LABEL, BAR CODE SALES SUPPLY(H9200UD)	Not used
A18	LABEL, TELEPHONE NUMBER H5720UD	0VM410319
A20	PANEL, TRAY H9221JD	0VM413420
1B2	DVD MECHA 0838 VCDVM030	N79F1FVM
2B12	PC SHEET H9200UD	Not used
2L041	SCREW, C-TIGHT M3X5 BIND HEAD +	GBKC3050
S1	GIFT BOX CARTON H9223UD	0VM305602
X1	REMOTE CONTROL UNIT 364/CRC006	NA200UD
X20⚠	OWNER'S MANUAL H9223UD	0VMN03152
X36	RETURN STOP SHEET H9223UD	0VM413703
Electrical Parts		
MCV CBA		0VSA12878
C1461	ELECTROLYTIC CAP. 1μF/50V M H7	Not used
C1462	ELECTROLYTIC CAP. 470μF/6.3V M or	Not used
	ELECTROLYTIC CAP. 470μF/6.3V M	Not used
C1481	ELECTROLYTIC CAP. 1μF/50V M H7	Not used
C1482	ELECTROLYTIC CAP. 470μF/6.3V M or	Not used
	ELECTROLYTIC CAP. 470μF/6.3V M	Not used
IC1401	DRIVER FOR DVD(3CH) MM1566AF	QSZBA0SMM083
IC1402	DRIVER FOR DVD (6CH) MM1567AJ	Not used
JK1403	RCA JACK MSP-213V1-652 PBSN	Not used
R1461	CHIP RES.(1608) 1/10W F 300 Ω or	Not used
	CHIP RES.(1608) 1/10W F 300 Ω	Not used
R1462	CHIP RES.(1608) 1/10W J 75 Ω	Not used
R1481	CHIP RES.(1608) 1/10W F 300 Ω or	Not used
	CHIP RES.(1608) 1/10W F 300 Ω	Not used
R1482	CHIP RES.(1608) 1/10W J 75 Ω	Not used
R1443A	CHIP RES.(1608) 1/10W J 75 Ω	Not used

WF802

H9223UD

Printed in Japan
2002-06-24 HO

Emerson®

SERVICE MANUAL

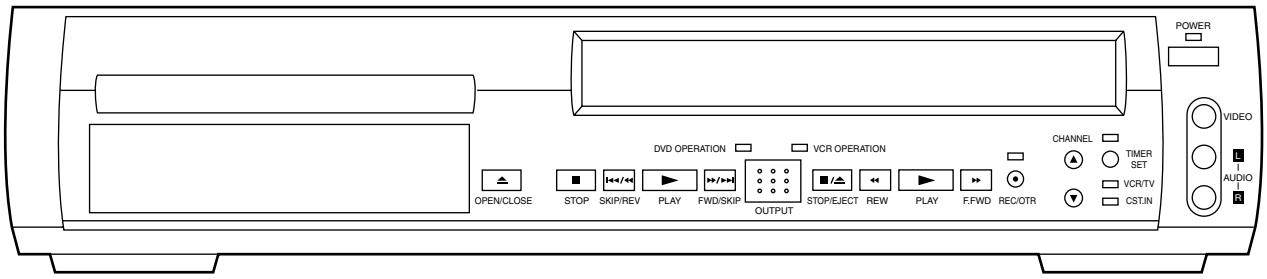
Sec. 1: Main Section
- Specifications
- Preparation for Servicing
- Adjustment Procedures
- Schematic Diagrams
- CBA's

Sec. 2: Deck Mechanism Section
- Standard Maintenance
- Alignment for Mechanism
- Disassembly/Assembly of Mechanism
- Alignment Procedures of Mechanism

Sec. 3: Exploded views and Parts List Section
- Exploded views
- Parts List

DVD PLAYER & VIDEO CASSETTE RECORDER

EWD2202



VHS

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MAIN SECTION

VIDEO CASSETTE RECORDER

EWD2202

Sec. 1: Main Section
- **Specifications**
- **Preparation for Servicing**
- **Adjustment Procedures**
- **Schematic Diagrams**
- **CBA's**

TABLE OF CONTENTS

Specifications 1-1-1
Laser Beam Safety Precautions 1-2-1
Important Safety Precautions 1-3-1
Standard Notes for Servicing 1-4-1
Preparation for Servicing 1-5-1
Operating Controls and Functions 1-6-1
Cabinet Disassembly Instructions 1-7-1
Electrical Adjustment Instructions 1-8-1
ROM Renewal Mode 1-9-1
Block Diagrams 1-10-1
Schematic Diagrams / CBA's and Test Points 1-11-1
Waveforms 1-12-1
Wiring Diagrams 1-13-1
System Control Timing Charts 1-14-1
IC Pin Function Descriptions 1-15-1
Lead Identifications 1-16-1

SPECIFICATIONS

< VCR Section >

Description	Unit	Minimum	Nominal	Maximum	Remark
1. Video					
1-1. Video Output (PB)	Vp-p	0.8	1.0	1.2	SP Mode
1-2. Video Output (R/P)	Vp-p	0.8	1.0	1.2	
1-3. Video S/N Y (R/P)	dB	40	45		SP Mode, W/O Burst
1-4. Video Color S/N AM (R/P)	dB	37	41		SP Mode
1-5. Video Color S/N PM (R/P)	dB	30	36		SP Mode
1-6. Resolution (PB)	Line	230	245		SP Mode
2. Servo					
2-1. Jitter Low	μsec		0.07	0.12	SP Mode
2-2. Wow & Flutter	%		0.3	0.5	SP Mode
3. Normal Audio					
3-1. Output (PB)	dBV	-9	-6	-3	SP Mode
3-2. Output (R/P)	dBV	-9	-6	-1.5	SP Mode
3-3. S/N (R/P)	dB	36	41		SP Mode
3-4. Distortion (R/P)	%		1.0	4.0	SP Mode
3-5. Freq. resp (R/P) at 200Hz	dB	-11	-4		SP Mode
(-20dB ref. 1kHz) at 8kHz	dB	-14	-4		SP Mode
4. Tuner					
4-1. Video output	Vp-p	0.8	1.0	1.2	E-E Mode
4-2. Video S/N	dB	39	42		E-E Mode
4-3. Audio output	dB	-10	-6	-2	E-E Mode
4-4. Audio S/N	dB	40	46		E-E Mode
5. Hi-Fi Audio					
5-1. Output	dBV	-12	-8	-4	SP Mode
5-2. Dynamic Range	dB	70	85		SP Mode
5-3. Freq. resp (6dB B.W)	Hz		20 ~ 20K		SP Mode

Note: Nominal specs represent the design specs. All units should be able to approximate these – some will exceed and some may drop slightly below these specs. Limit specs represent the absolute worst condition that still might be considered acceptable; In no case should a unit fail to meet limit specs.

< DVD Section >

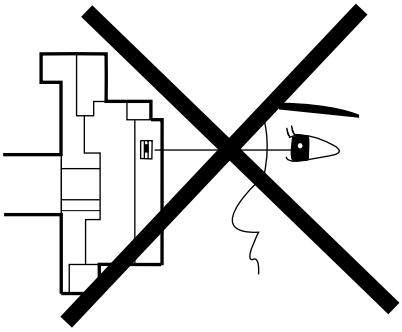
ITEM	CONDITIONS	UNIT	NOMINAL	LIMIT
1. Video Output	75 ohm load	Vpp	1.0	
2. Coaxial Digital Out		mVpp	500	
3. Audio (PCM)				
3-1. Output Level	1kHz 0dB	Vrms	2.0	
3-2. S/N		dB	85	
3-3. Freq. Response				
DVD	fs=48kHz 20~22kHz	dB	± 2	
CD	fs=44.1kHz 20~20 kHz	dB	± 2	
3-4. THD+N	1 kHz 0dB	%	0.005	

NOTES:

1. All Items are measured without pre-emphasis unless otherwise specified.
2. Power supply : AC120 V 60 Hz
3. Load imp. : 100 K ohm
4. Room ambient : +25 °C

LASER BEAM SAFETY PRECAUTIONS

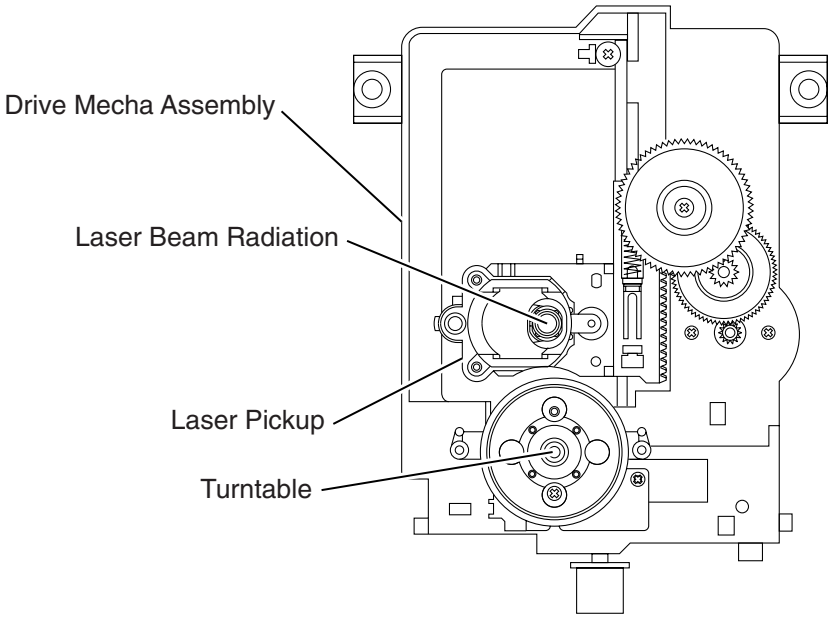
This DVD player uses a pickup that emits a laser beam.



Do not look directly at the laser beam coming from the pickup or allow it to strike against your skin.

The laser beam is emitted from the location shown in the figure. When checking the laser diode, be sure to keep your eyes at least 30cm away from the pickup lens when the diode is turned on. Do not look directly at the laser beam.

Caution: Use of controls and adjustments, or doing procedures other than those specified herein, may result in hazardous radiation exposure.



CAUTION
LASER RADIATION
WHEN OPEN. DO NOT
STARE INTO BEAM.

Location: Inside Top of DVD mechanism.

IMPORTANT SAFETY PRECAUTIONS

Product Safety Notice

Some electrical and mechanical parts have special safety-related characteristics which are often not evident from visual inspection, nor can the protection they give necessarily be obtained by replacing them with components rated for higher voltage, wattage, etc. Parts that have special safety characteristics are identified by a ⚠ on schematics and in parts lists. Use of a substitute replacement that does not have the same safety characteristics as the recommended replacement part might create shock, fire, and/or other hazards. The Product's Safety is under review continuously and new instructions are issued whenever appropriate. Prior to shipment from the factory, our products are carefully inspected to confirm with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced**.**

Precautions during Servicing

A. Parts identified by the ⚠ symbol are critical for safety. Replace only with part number specified.

B. In addition to safety, other parts and assemblies are specified for conformance with regulations applying to spurious radiation. These must also be replaced only with specified replacements.
Examples: RF converters, RF cables, noise blocking capacitors, and noise blocking filters, etc.

C. Use specified internal wiring. Note especially:

1)Wires covered with PVC tubing

2)Double insulated wires

3)High voltage leads

D. Use specified insulating materials for hazardous live parts. Note especially:

1)Insulation tape

2)PVC tubing

3)Spacers

4)Insulators for transistors

E. When replacing AC primary side components (transformers, power cord, etc.), wrap ends of wires securely about the terminals before soldering.

F. Observe that the wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.).

G. Check that replaced wires do not contact sharp edges or pointed parts.

H. When a power cord has been replaced, check that 5 - 6 kg of force in any direction will not loosen it.

I. Also check areas surrounding repaired locations.

J. Be careful that foreign objects (screws, solder droplets, etc.) do not remain inside the set.

K. Crimp type wire connector
The power transformer uses crimp type connectors which connect the power cord and the primary side of the transformer. When replacing the transformer, follow these steps carefully and precisely to prevent shock hazards.
Replacement procedure

1)Remove the old connector by cutting the wires at a point close to the connector.

Important: Do not re-use a connector. (Discard it.)

2)Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

3)Align the lengths of the wires to be connected. Insert the wires fully into the connector.

4)Use a crimping tool to crimp the metal sleeve at its center. Be sure to crimp fully to the complete closure of the tool.

L. When connecting or disconnecting the internal connectors, first, disconnect the AC plug from the AC outlet.

Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts, and wires have been returned to their original positions. Afterwards, do the following tests and confirm the specified values to verify compliance with safety standards.

1. Clearance Distance

When replacing primary circuit components, confirm specified clearance distance (d) and (d') between soldered terminals, and between terminals and surrounding metallic parts. (See Fig. 1)

Table 1 : Ratings for selected area

AC Line Voltage	Clearance Distance (d) (d')
120 V	≥ 3.2mm (0.126 inches)

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

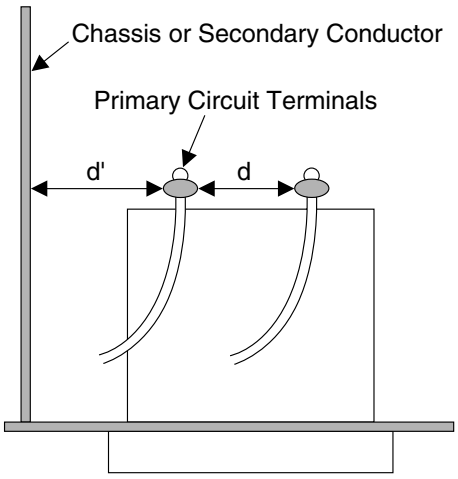


Fig. 1

2. Leakage Current Test

Confirm the specified (or lower) leakage current between B (earth ground, power cord plug prongs) and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.) is lower than or equal to the specified value in the table below.

Measuring Method (Power ON) :

Insert load Z between B (earth ground, power cord plug prongs) and exposed accessible parts. Use an AC voltmeter to measure across the terminals of load Z. See Fig. 2 and the following table.

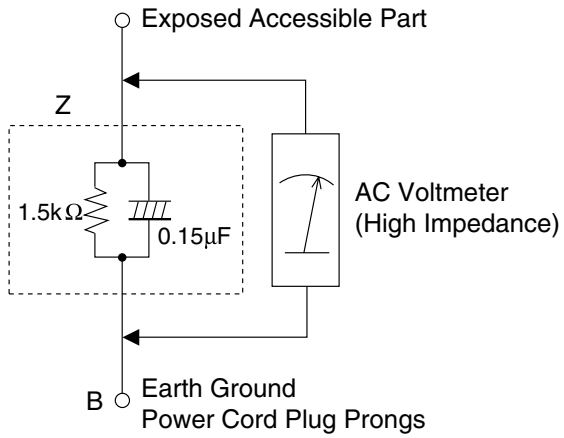


Fig. 2

Table 2: Leakage current ratings for selected areas

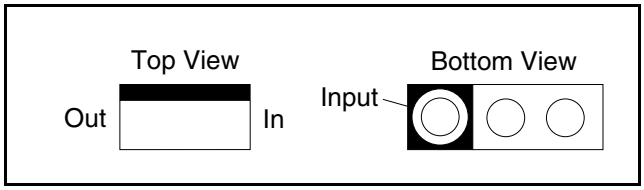
AC Line Voltage	Load Z	Leakage Current (i)	Earth Ground (B) to:
120 V	0.15μF CAP. & 1.5kΩ RES. Connected in parallel	i≤0.5mA Peak	Exposed accessible parts

Note: This table is unofficial and for reference only. Be sure to confirm the precise values.

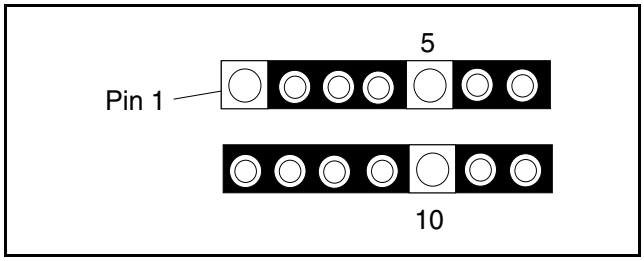
STANDARD NOTES FOR SERVICING

Circuit Board Indications

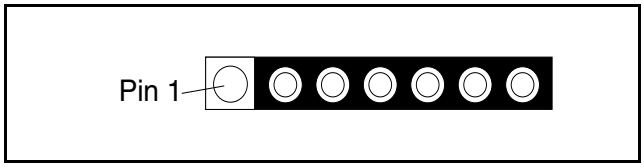
a. The output pin of the 3 pin Regulator ICs is indicated as shown.



b. For other ICs, pin 1 and every fifth pin are indicated as shown.

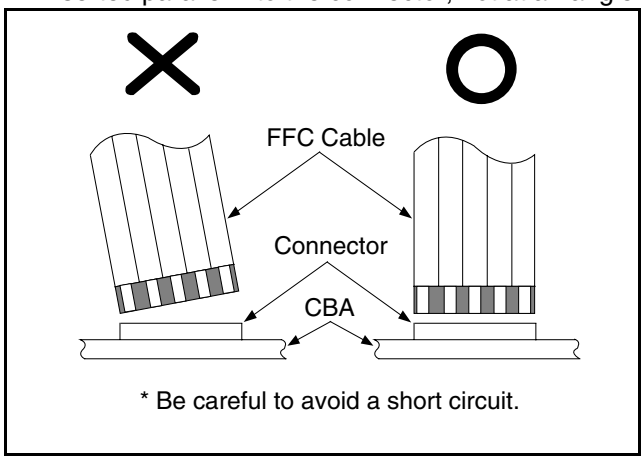


c. The 1st pin of every male connector is indicated as shown.



Instructions for Connectors

1. When you connect or disconnect the FFC (Flexible Foil Connector) cable, be sure to first disconnect the AC cord.
2. FFC (Flexible Foil Connector) cable should be inserted parallel into the connector, not at an angle.



How to Remove / Install Flat Pack-IC

1. Removal

With Hot-Air Flat Pack-IC Desoldering Machine:.

(1) Prepare the hot-air flat pack-IC desoldering machine, then apply hot air to the Flat Pack-IC (about 5 to 6 seconds). (Fig. S-1-1)

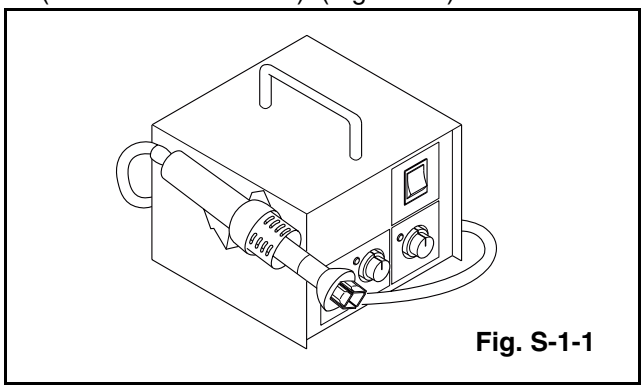


Fig. S-1-1

(2) Remove the flat pack-IC with tweezers while applying the hot air.

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(1) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Caution:

1. Do not supply hot air to the chip parts around the flat pack-IC for over 6 seconds because damage to the chip parts may occur. Put masking tape around the flat pack-IC to protect other parts from damage. (Fig. S-1-2)
2. The flat pack-IC on the CBA is affixed with glue, so be careful not to break or damage the foil of each pin or the solder lands under the IC when removing it.

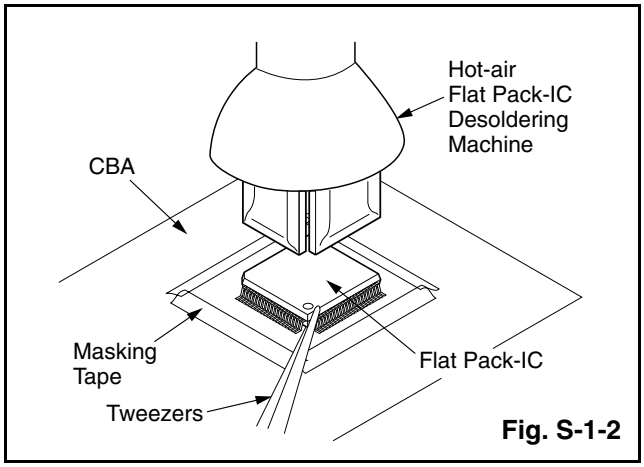


Fig. S-1-2

With Soldering Iron:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

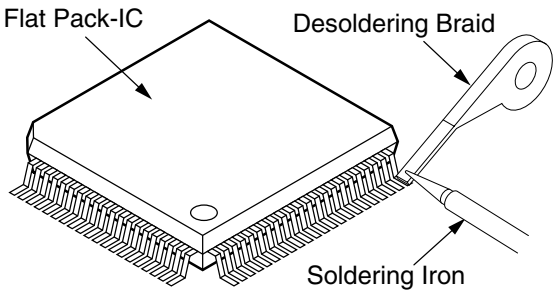


Fig. S-1-3

(2) Lift each lead of the flat pack-IC upward one by one, using a sharp pin or wire to which solder will not adhere (iron wire). When heating the pins, use a fine tip soldering iron or a hot air desoldering machine. (Fig. S-1-4)

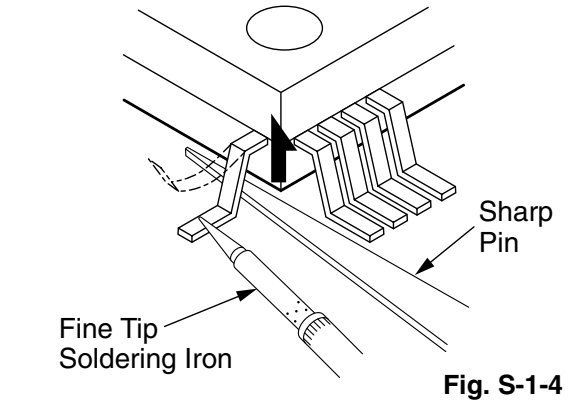


Fig. S-1-4

(3) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(4) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

With Iron Wire:

(1) Using desoldering braid, remove the solder from all pins of the flat pack-IC. When you use solder flux which is applied to all pins of the flat pack-IC, you can remove it easily. (Fig. S-1-3)

(2) Affix the wire to a workbench or solid mounting point, as shown in Fig. S-1-5.

(3) While heating the pins using a fine tip soldering iron or hot air blower, pull up the wire as the solder melts so as to lift the IC leads from the CBA contact pads as shown in Fig. S-1-5

(4) Bottom of the flat pack-IC is fixed with glue to the CBA; when removing entire flat pack-IC, first apply soldering iron to center of the flat pack-IC and heat up. Then remove (glue will be melted). (Fig. S-1-6)

(5) Release the flat pack-IC from the CBA using tweezers. (Fig. S-1-6)

Note:

When using a soldering iron, care must be taken to ensure that the flat pack-IC is not being held by glue. When the flat pack-IC is removed from the CBA, handle it gently because it may be damaged if force is applied.

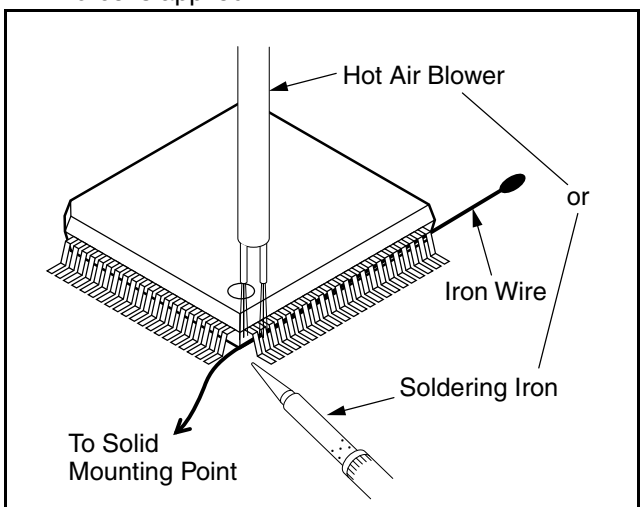


Fig. S-1-5

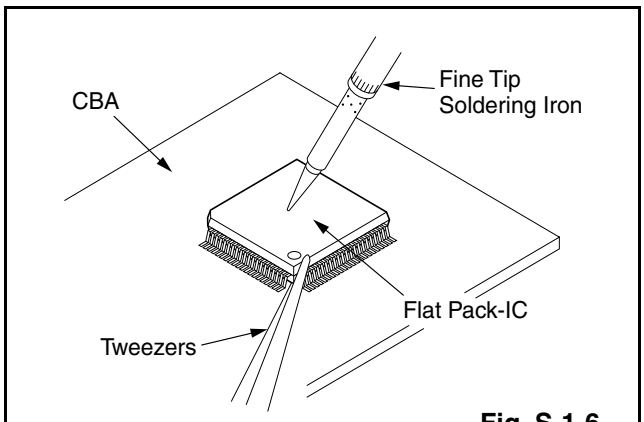


Fig. S-1-6

2. Installation

(1) Using desoldering braid, remove the solder from the foil of each pin of the flat pack-IC on the CBA so you can install a replacement flat pack-IC more easily.

(2) The "●" mark on the flat pack-IC indicates pin 1. (See Fig. S-1-7.) Be sure this mark matches the 1 on the PCB when positioning for installation. Then presolder the four corners of the flat pack-IC. (See Fig. S-1-8.)

(3) Solder all pins of the flat pack-IC. Be sure that none of the pins have solder bridges.

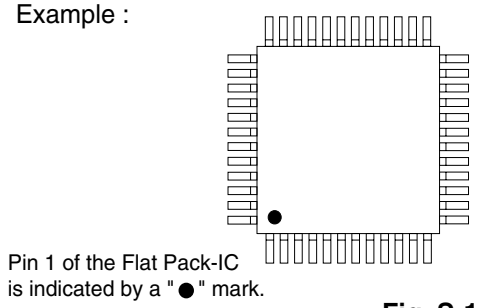


Fig. S-1-7

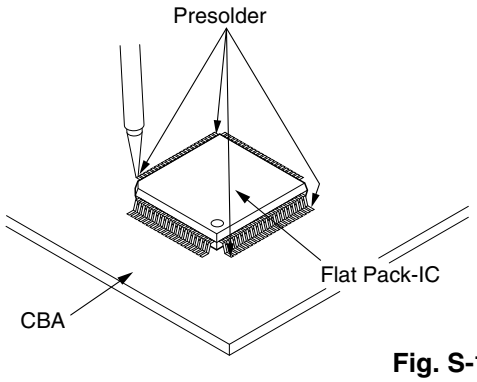


Fig. S-1-8

Instructions for Handling Semi-conductors

Electrostatic breakdown of the semi-conductors may occur due to a potential difference caused by electrostatic charge during unpacking or repair work.

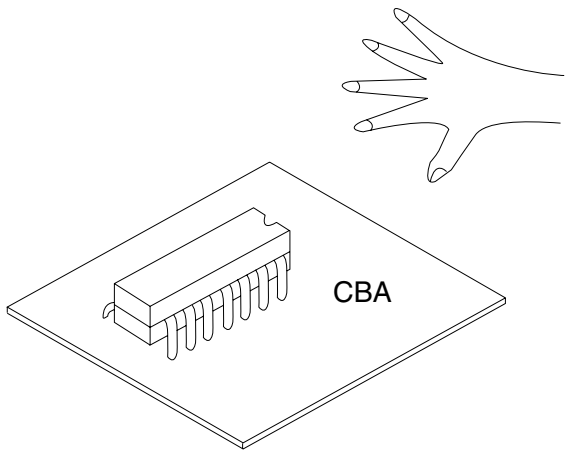
1. Ground for Human Body

Be sure to wear a grounding band (1MΩ) that is properly grounded to remove any static electricity that may be charged on the body.

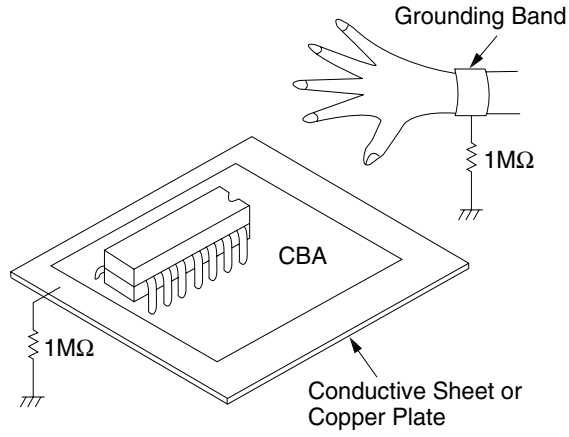
2. Ground for Workbench

(4) Be sure to place a conductive sheet or copper plate with proper grounding (1MΩ) on the workbench or other surface, where the semi-conductors are to be placed. Because the static electricity charge on clothing will not escape through the body grounding band, be careful to avoid contacting semi-conductors with your clothing.

< Incorrect >



< Correct >



PREPARATION FOR SERVICING

How to Enter the Service Mode

About Optical Sensors

Caution:

An optical sensor system is used for the Tape Start and End Sensors on this equipment. Carefully read and follow the instructions below. Otherwise the unit may operate erratically.

What to do for preparation

Insert a tape into the Deck Mechanism Assembly and press the PLAY button. The tape will be loaded into the Deck Mechanism Assembly. Make sure the power is on, TP502 (SENSOR INHIBITION) to GND. This will stop the function of Tape Start Sensor, Tape End Sensor and Reel Sensors. (If these TPs are connected before plugging in the unit, the function of the sensors will stay valid.) See Fig. 1.

Note: Because the Tape End Sensors are inactive, do not run a tape all the way to the start or the end of the tape to avoid tape damage.

About REC-Safety Switch

Caution:

The REC-Safety Switch is directly mounted on the Main CBA. When the Deck Mechanism Assembly is removed from the Main CBA for servicing, this switch does not work automatically.

What to do for preparation

In order to record, press the Rec button while pushing REC-SAFETY SW on the Main CBA. See Fig. 1.

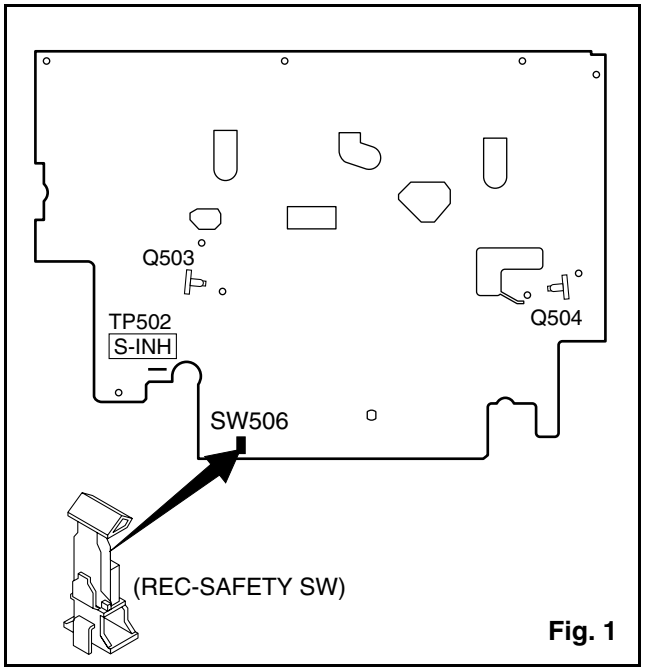
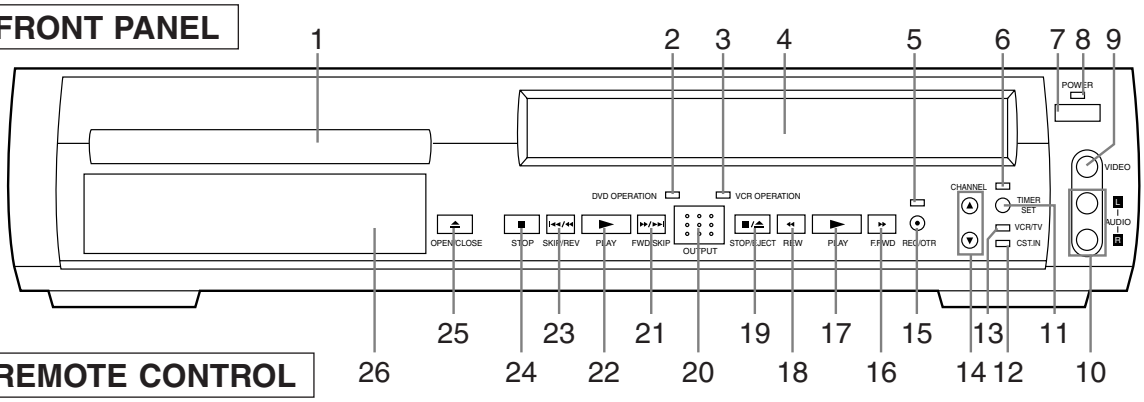


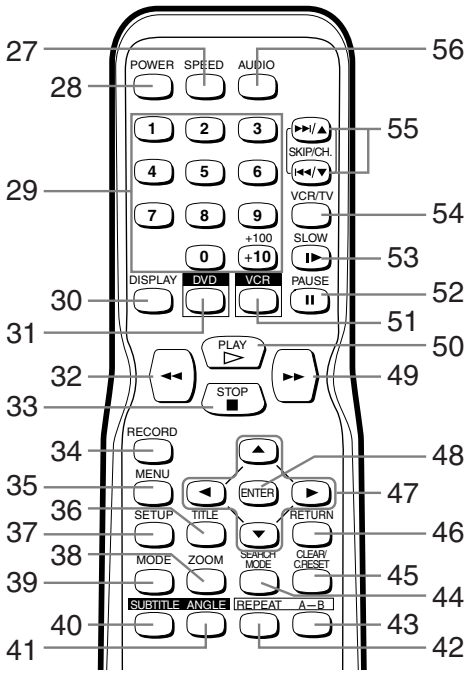
Fig. 1

OPERATING CONTROLS AND FUNCTIONS

FRONT PANEL



REMOTE CONTROL



1. **Disc loading tray**
2. **DVD OUTPUT Light (Green)**
   This light appears when the DVD/VCR is in DVD mode. You can only watch DVDs when the green DVD OUTPUT Light is on. To make the green DVD OUTPUT light come on, press the DVD button on the remote control or the OUTPUT Button on the front panel.
3. **VCR OUTPUT Light (Green)**
   This light appears when the DVD/VCR is in VCR mode. You can only watch tapes when the green VCR OUTPUT light is on. To make the green VCR OUTPUT light come on, the VCR button on the remote control or the OUTPUT Button on the front panel.
4. **CASSETTE COMPARTMENT**
5. **REC/OTR Light**
   Lights up during recording.
6. **TIMER SET Light**
   This light glows when the DVD/VCR is in standby mode or off for a timer recording or during a One-Touch Recording. It flashes if the TIMER SET button is pressed for a timer recording, but there is no tape in the DVD/VCR. It flashes when all timer recordings or One-Touch Recordings are finished.
7. **POWER Button**
   Press to turn the power on and off.
8. **POWER Light**
   Lights up when the power is on.
9. **VIDEO In Jack**
   Connect a video cable coming from the video out jack of a camcorder, another VCR, or a video source (laser disc player, video disc player, etc.) here.
10. **AUDIO In Jacks**
    Connect audio cables coming from the audio out jacks of a camcorder, another VCR, or an audio source here.
11. **TIMER SET Button**
    Press to put the DVD/VCR into standby mode for a timer recording.
12. **CASSETTE IN Light**
    Lights up when a cassette is in the DVD/VCR.
13. **VCR/TV Light**
    Lights up when the DVD/VCR is in the VCR position, and goes off when it is in the TV position.
14. **CHANNEL Buttons**
    In VCR mode, press to change TV channels on the DVD/VCR; press to adjust the tracking during normal or slow motion playback; press to remove vertical jitter in a Still picture.
15. **REC/OTR Button (VCR)**
    Press once to start a recording. Press repeatedly to start a One-Touch Recording.
16. **F.FWD Button (VCR)**
    Press to rapidly advance the tape, or view the picture rapidly in forward during playback. (Forward Search). When setting program (For example:setting clock or timer program), press to determine your selection and proceed to the next step you want to input. Press to determine the setting modes from the on screen menu. Press to add or delete channel numbers during channel preset.
17. **PLAY Button (VCR)**
    Press to begin playback. Press to enter digits when setting program (For example: setting clock or timer program). Press to select the setting modes from the on screen menu.
18. **REW Button (VCR)**
    Press to rewind the tape, or to view the picture rapidly in reverse during the playback mode (Rewind Search). Press to cancel a setting of timer program. Press to correct digits when setting program (For

example: setting clock or timer program). Press to add or delete channel numbers during channel preset.

19. STOP/EJECT Button (VCR)

● **EJECT Button**

Press to remove the tape from the VCR.

● **STOP Button**

Press to stop the tape motion. Press to enter digits when setting program (For example:setting clock or timer program). Press to select the setting modes from the on screen menu.

20. OUTPUT Button

Press to select DVD mode or VCR mode.

● You can switch the output mode either by pressing the OUTPUT Button on the front panel, or by pressing the DVD or the VCR Button on the remote control. However, **if you press the OUTPUT Button on the front panel first, you need to re-select the corresponding mode by pressing the DVD or the VCR button on the remote control.**

21. FWD/SKIP Button (DVD) [page 25]

Plays back from the beginning of the next chapter or track. Hold down to fast forward playback.

22. PLAY Button (DVD)

Press to begin playback.

23. SKIP/REV Button (DVD)

Plays back from the beginning of the current chapter or track. Hold down to fast reverse playback.

24. STOP Button (DVD)

Stops operation of the disc.

25. OPEN/CLOSE Button

Press to insert discs into or remove them from the tray.

26. Display, Remote Sensor Window

27. SPEED Button

Press to select the VCR's recording speed (SP or SLP)

28. POWER Button

Press to turn the power on and off.

29. Number Buttons

● **DVD mode**

Press to directly select a Track (Audio CD) for playback.

Press to program Tracks (Audio CD) for playback.

● **VCR mode**

Press to select TV channels on the DVD/VCR.

To select channels, enter channel numbers as a two-digit number for the quickest results. For example, to select channel 6, press 0 then 6.

+100 button:

If you want to select channels 100 and above, press this button first, then press the last two digits. For example, to select channel 125, press +100 button first, then press 2 and 5.

30. DISPLAY Button

● **DVD mode**

Press to access or remove the display screen during DVD or Audio CD playback.

● **VCR mode**

Press to access or remove the VCR's on-screen status display.

31. DVD Button

Press to select DVD mode for the remote control.

● You can switch the OUTPUT mode either by pressing the OUTPUT Button on the front panel, or by pressing the DVD or the VCR Button on the remote control. However, **if you press the OUTPUT Button on the front panel first, you need to re-select the corresponding mode by pressing the DVD or the VCR button on the remote control.**

32. ◄◄ Button

● **DVD mode**

Press to view the DVD picture in fast reverse motion or to reverse playback of an Audio CD.

● **VCR mode**

Press to rewind the tape, or to view the picture rapidly in reverse during the playback mode (Rewind Search). Press to cancel a setting of timer program. Press to correct digits when setting program (For example: setting clock or timer program). Press to add or delete channel numbers during channel preset.

33. Stop Button

Press to stop the tape motion. Press to enter digits when setting program (For example: setting clock or timer program). Press to select the setting modes from the on screen menu.

34. RECORD Button

Press once to start a recording. Or, press repeatedly to start a One-Touch Recording.

35. MENU Button

● **DVD mode**

Press to display the menu of the Disc.

● **VCR mode**

Press to access the VCR menu.

36. TITLE Button

37. SETUP Button

Press to enter the setup mode or to change setup items.

38. ZOOM Button

Enlarges part of a DVD-reproduced image.

39. MODE Button

Activates program playback or random playback mode when playing CDs or MP3. Sets Black level or SRS TruSurround.

40. SUBTITLE Button

Press to select the desired subtitle language.

41. ANGLE Button

Press to change the camera angle to see the sequence being played back from a different angle.

42. REPEAT Button

Repeats playback of the current disc, title, chapter or track.

43. A-B REPEAT Button

Repeats playback of a selected section.

44. SEARCH MODE Button

● **DVD mode**

Press to access or remove the Search display, which allows you to go directly to a specific Title/Chapter/Track/Time.

● **VCR mode**

Press to perform a Time Search or an Index Search.

45. CLEAR/C.RESET Button

● **DVD mode**

Press to reset the setting.

● **VCR mode**

Press to reset the counter. Press to exit from the MENU screen.

46. RETURN Button

Returns to the previous operation.

47. Arrow Buttons

Use when making settings while watching the display on a TV screen.

48. ENTER Button
Press to accept a setting.

49. ►► Button

●**DVD mode**
Press to fast forward the Disc. Press the Pause button, then press the FWD button to begin slow motion playback. Press the FWD button repeatedly to change the forward speed of slow motion.

●**VCR mode**
Press to rapidly advance the tape, or view the picture rapidly in forward during playback (Forward Search). When setting program (For example: setting clock or timer program), press to determine your selection and proceed to the next step you want to input. Press to determine the setting modes from the on screen menu. Press to add or delete channel numberes during channel preset.

50. PLAY Button

●**DVD mode**
Press to begin playback.

●**VCR mode**
Press to begin playback. Press to enter digits when setting program (For example: setting clock or timer program). Press to select the setting modes from the on screen menu.

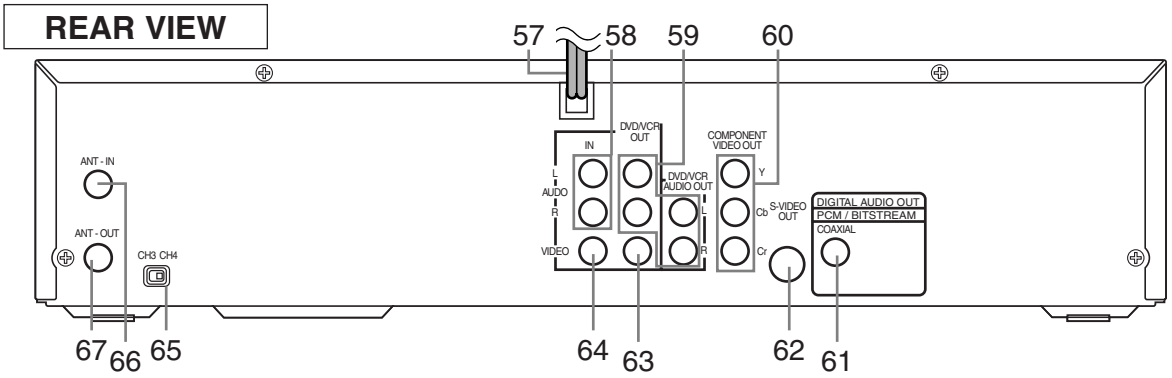
51. VCR Button
Press to select VCR mode for the remote control.
●You can switch the OUTPUT mode either by pressing the OUTPUT Button on the front panel, or by pressing the DVD or the VCR Button on the remote control. However, **if you press the OUTPUT Button on the front panel first, you need to re-select the corresponding mode by pressing the DVD or the VCR button on the remote control.**

52. PAUSE Button

●**DVD mode**
Press to pause Disc playback. Press repeatedly to advance the DVD picture step by step (or one frame at a time).

Notes
- To use the remote control to operate the DVD/VCR and its features, press the DVD button on the remote control before pressing other DVD buttons. Verify that the green DVD OUTPUT Light is on.
- To use the remote control to operate the VCR and its features, press the VCR button on the remote control before pressing other VCR buttons. Verify that the green VCR OUTPUT Light is on.

REAR VIEW



●**VCR mode**
While recording, press to temporarily stop the recording (pause). Press a second time to resume normal recording. You can not pause a One-Touch Recording. Or, press during tape playback to freeze the picture. Press to advance the picture by one frame at a time during still mode.

53. SLOW Button
During tape playback, press to view the video tape in slow motion. Press again to resume normal playback. This button does not affect DVD playback.

54. VCR/TV Button
Use to select VCR or TV position. If the VCR/TV light appears on the front of the DVD/VCR, it is in VCR position (in either VCR or DVD mode). If the VCR/TV light doesn't appear on the front of the DVD/VCR, it is in TV position.

●**VCR Position**
When the green VCR OUTPUT light appears on the front of the DVD/VCR, use the VCR to watch a tape, watch a TV program while recording it, or watch a TV broadcast using the CHANNEL or the Number buttons to change channels at the DVD/VCR.
When the green DVD OUTPUT light appears on the front of the DVD/VCR, use the DVD/VCR to view Disc playback or menus.

●**TV Position**
Use to watch TV (changing channels at the TV) or watch one program while recording another.

55. SKIP/CH. Buttons

●**DVD mode**
Press to skip Chapters or Tracks.

●**VCR mode**
Press to change TV channels on the DVD/VCR.

56. AUDIO Button
Press to select a desired audio language or sound mode.

57. AC Power Cord
Connect to a standard AC outlet to supply power to the DVD/VCR.

58. AUDIO IN Jacks
Connect audio cables coming from the audio out jacks of a camcorder, another VCR, or an audio source here.

59. DVD/VCR AUDIO OUT Jacks
Connect the supplied audio cables here and to the Audio In jacks of a television or other audio equipment.

60. COMPONENT VIDEO OUT Jacks
Connect optional component video cables here

and to the component Video In jacks of a television.

61. COAXIAL Jack
Connect an optional coaxial digital audio cable here and to the Coaxial Digital Audio In jack of a decoder or audio receiver.

62. S-VIDEO OUT Jack
Connect an optional S-Video cable here and to the S-Video In jack of a television.

63. DVD/VCR VIDEO OUT Jack
Connect the yellow video cable (supplied) here and to the TV's Video In jack.

64. VIDEO IN Jack
Connect a cable coming from the video out jack of a camcorder, another VCR, or an audio-visual source (laser disc player, video disc player, etc.) here.

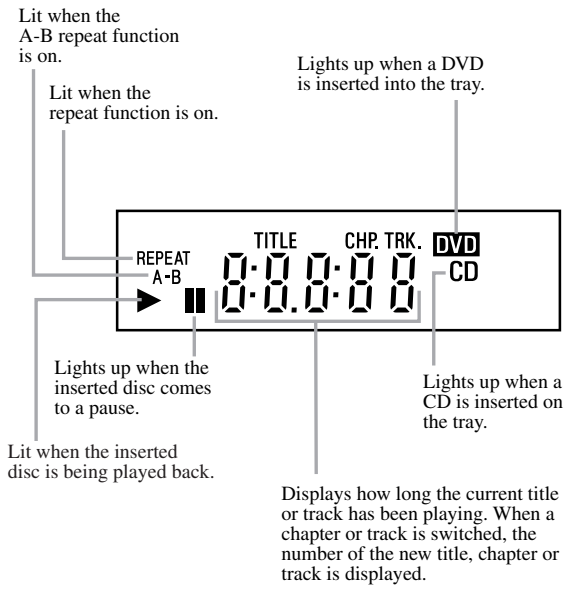
65. CH3/CH4 Switch
Set to channel 3 or 4 to use your TV with your DVD/VCR.

66. ANT-IN (Antenna In) Jack
Connect your antenna, Cable Box, or Direct Broadcast System.

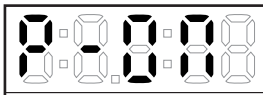
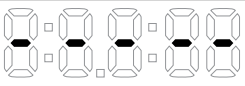
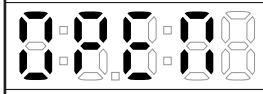
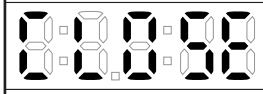
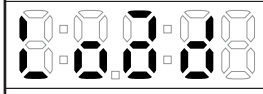
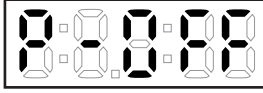
67. ANT-OUT (Antenna Out) Jack
Use the supplied RF coaxial cable to connect this jack to the ANTENNA IN Jack on your TV.

Notes
- The S-VIDEO OUT jack, COAXIAL jack, OPTICAL jack, and COMPONENT VIDEO OUT jacks are only useful in DVD mode.

DISPLAY


Lit when the A-B repeat function is on.
Lit when the repeat function is on.
Lights up when a DVD is inserted into the tray.
REPEAT
A-B
TITLE
CHP. TRK.
DVD
CD
Lights up when the inserted disc comes to a pause.
Lights up when a CD is inserted on the tray.
Lit when the inserted disc is being played back.
Displays how long the current title or track has been playing. When a chapter or track is switched, the number of the new title, chapter or track is displayed.

DISPLAYS DURING OPERATION

	Power on
	No disc inserted
	Tray open
	Tray closed
	Loading the Disc
	Power off

LOADING THE BATTERIES

1. Open the battery compartment cover.

2. Insert two AA batteries, with each one oriented correctly.

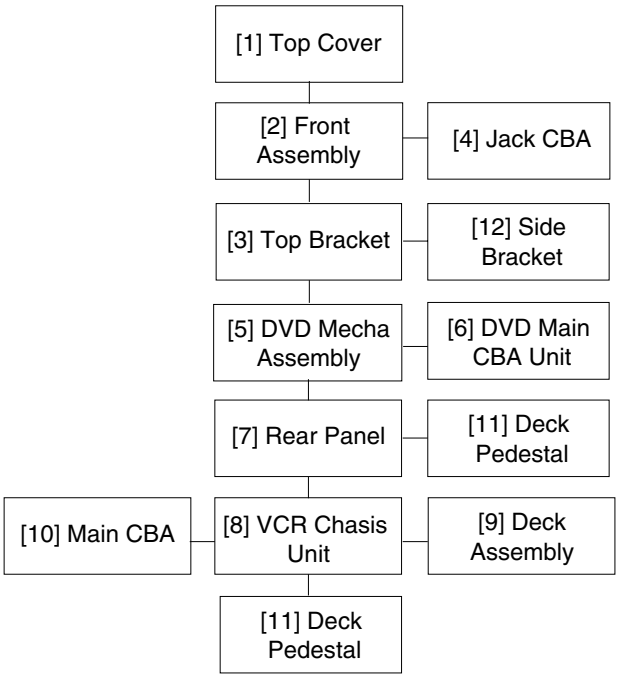
3. Close the cover.

Notes
- Do not mix alkaline and manganese batteries.
- Do not mix old and new batteries.

CABINET DISASSEMBLY INSTRUCTIONS

1. Disassembly Flowchart

This flowchart indicates the disassembly steps to gain access to item(s) to be serviced. When reassembling, follow the steps in reverse order. Bend, route, and dress the cables as they were originally.



2. Disassembly Method

ID/ LOC. No.	PART	REMOVAL		
		Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	Note
[1]	Top Cover	D1	7(S-1)	-
[2]	Front Assembly	D2	*CN505, *2(L-1), Tray Panel, *7(L-2)	1-1 1-2 1-3 1-4 1-5 1-6 1-7
[3]	Top Bracket	D2	4(S-2)	-
[4]	Jack CBA	D3	3(S-3)	-
[5]	DVD Mecha Assembly	D4	3(S-4), *CN501, *CN701	-
[6]	DVD Main CBA Unit	D5	3(S-5), *CN101, *CN401	2 2-1 2-2 2-3 3
[7]	Rear Panel	D6	5(S-6), 3(S-7)	-
[8]	VCR Chassis Unit	D7	5(S-8), 6(S-9)	-
[9]	Deck Assembly	D8	Desolder, 2(S-12)	4,5
[10]	Main CBA	D8	----------	-
[11]	Deck Pedestal	D9	7(S-10)	-
[12]	Side Bracket	D9	(S-11)	-
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)

Note:

(1): Identification (location) No. of parts in the figures

(2): Name of the part

(3): Figure Number for reference

(4): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, L=Locking Tab, S=Screw, CN=Connector
*=Unhook, Unlock, Release, Unplug, or Desolder
e.g. 2(S-2) = two Screws (S-2),
2(L-2) = two Locking Tabs (L-2)

(5): Refer to “Reference Notes.”

Reference Notes

CAUTION 1: Locking Tabs (L-1), (L-2) and (L-3) are fragile. Be careful not to break them.

1-1. Connect the wall plug to an AC outlet and press the OPEN/CLOSE button to open the Tray.

1-2. Remove the Tray Panel by releasing two Locking Tabs (L-1).

1-3. Press the OPEN/CLOSE button again to close the Tray.

1-4. Press the POWER button to turn the power off.

1-5. Unplug an AC cord.

1-6. Disconnect connector CN505.

1-7. Release seven Locking Tabs (L-2) (to do this, first release five Locking Tabs (A) at the side and top, and then release two Locking Tabs (B) at the bottom.)

CAUTION 2: Electrostatic breakdown of the laser diode in the optical system block may occur as a potential difference caused by electrostatic charge accumulated on cloth, human body etc., during unpacking or repair work.

To avoid damage of pickup follow next procedures.

2-1. Slide the pickup unit as shown in Fig. D5.

2-2. Short the three short lands of FPC cable with solder before removing the FFC cable (CN101) from it. If you disconnect the FFC cable (CN101), the laser diode of pickup will be destroyed. (Fig. D5)

2-3. Disconnect Connector (CN401). Remove three Screws (S-5) and lift the DVD Main CBA Unit. (Fig. D5)

CAUTION 3: When reassembling, confirm the FFC cable (CN101) is connected completely. Then remove the solder from the three short lands of FPC cable. (Fig. D5)

4. When reassembling, solder wire jumpers as shown in Fig. D8.

5. Before installing the Deck Assembly, be sure to place the pin of LD-SW on Main CBA as shown in Fig. D8. Then, install the Deck Assembly while aligning the hole of Cam Gear with the pin of LD-SW, the shaft of Cam Gear with the hole of LD-SW as shown in Fig. D8.

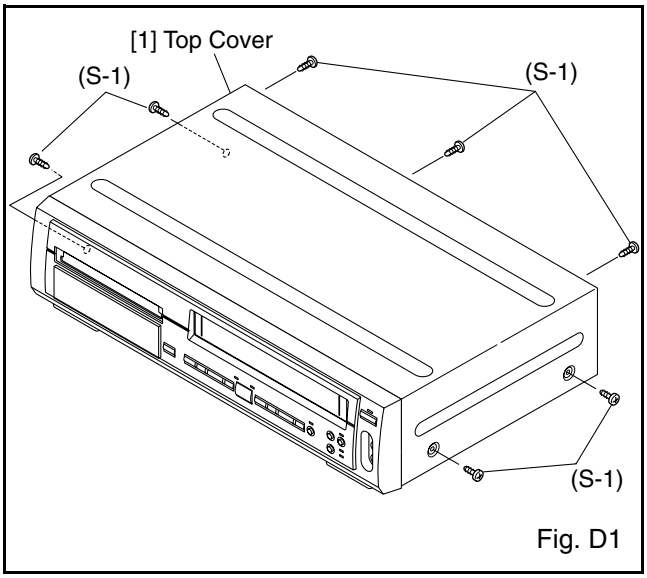


Fig. D1

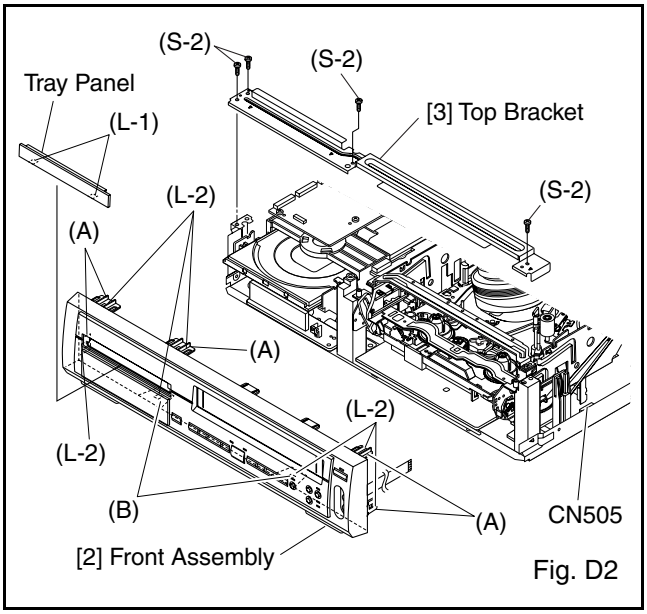


Fig. D2

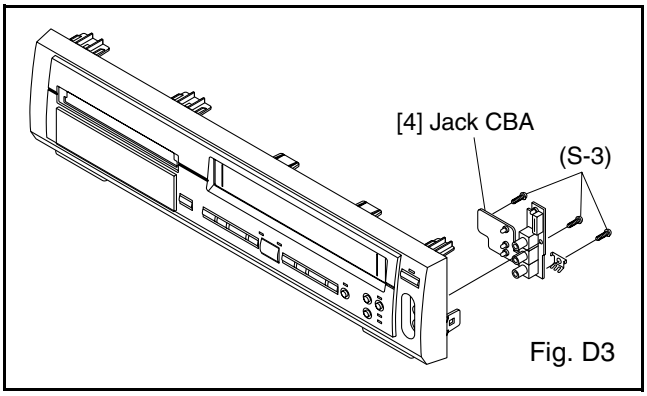


Fig. D3

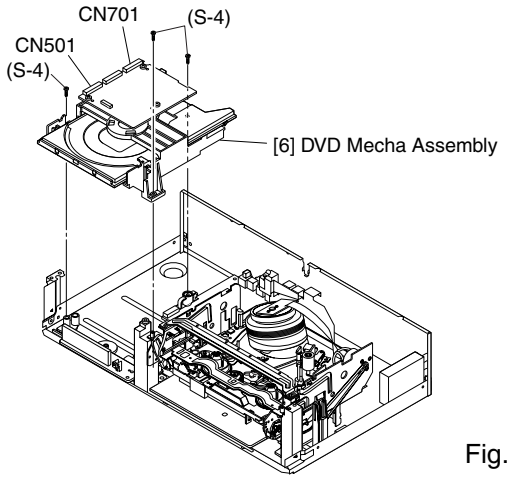


Fig. D4

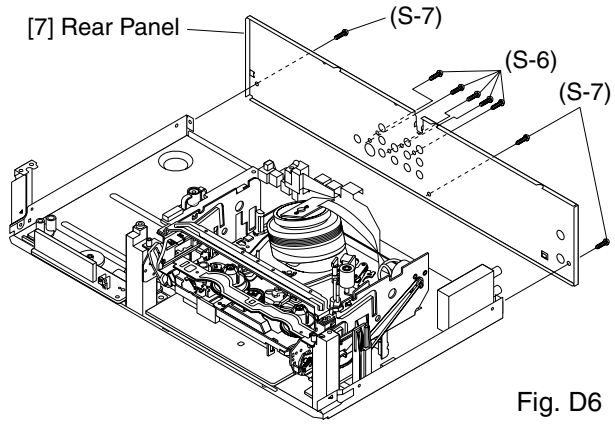
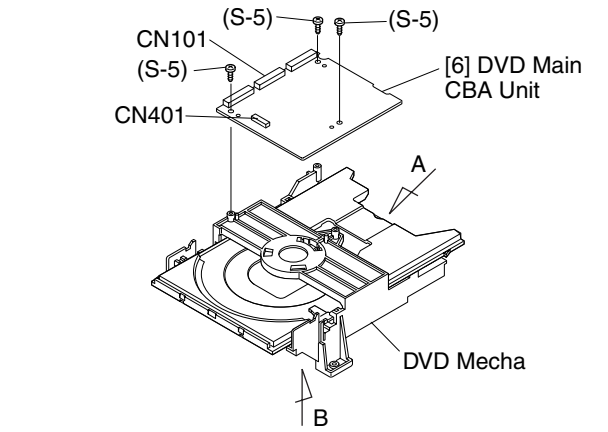
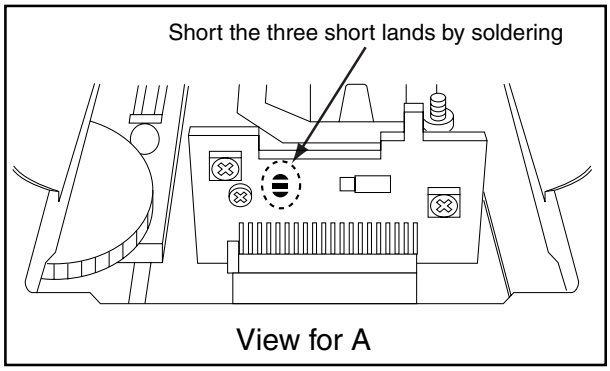


Fig. D6





OR

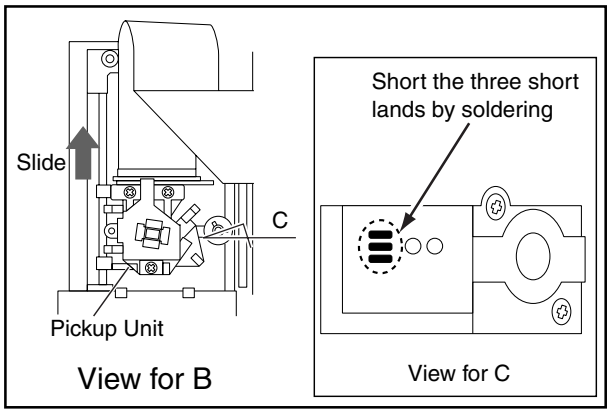


Fig. D5

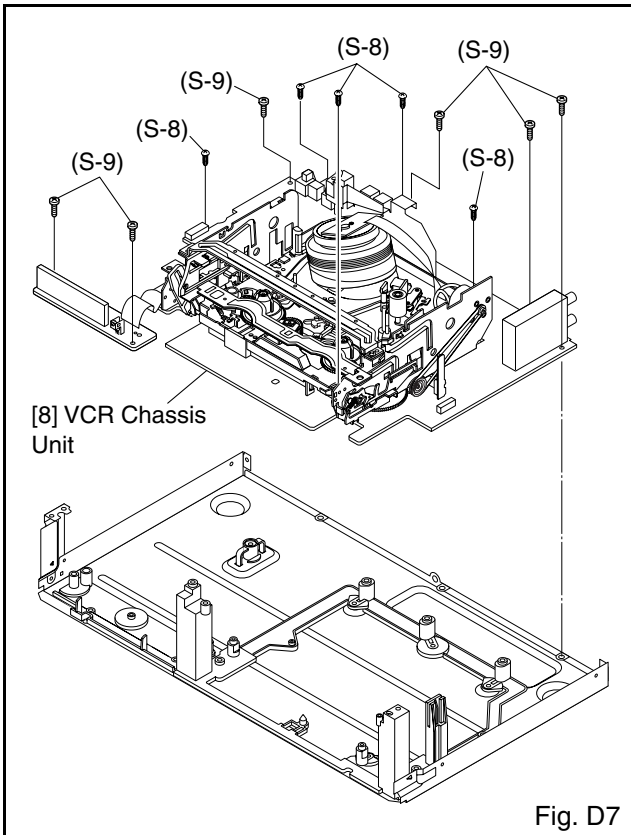
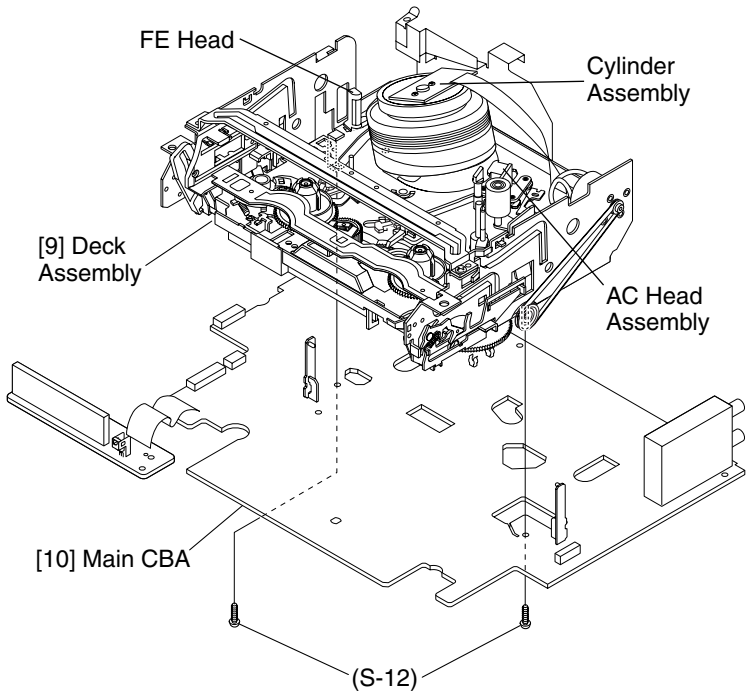
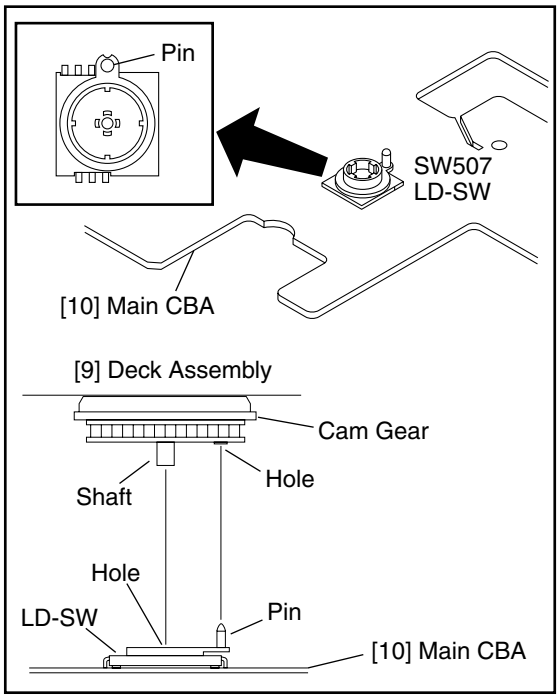
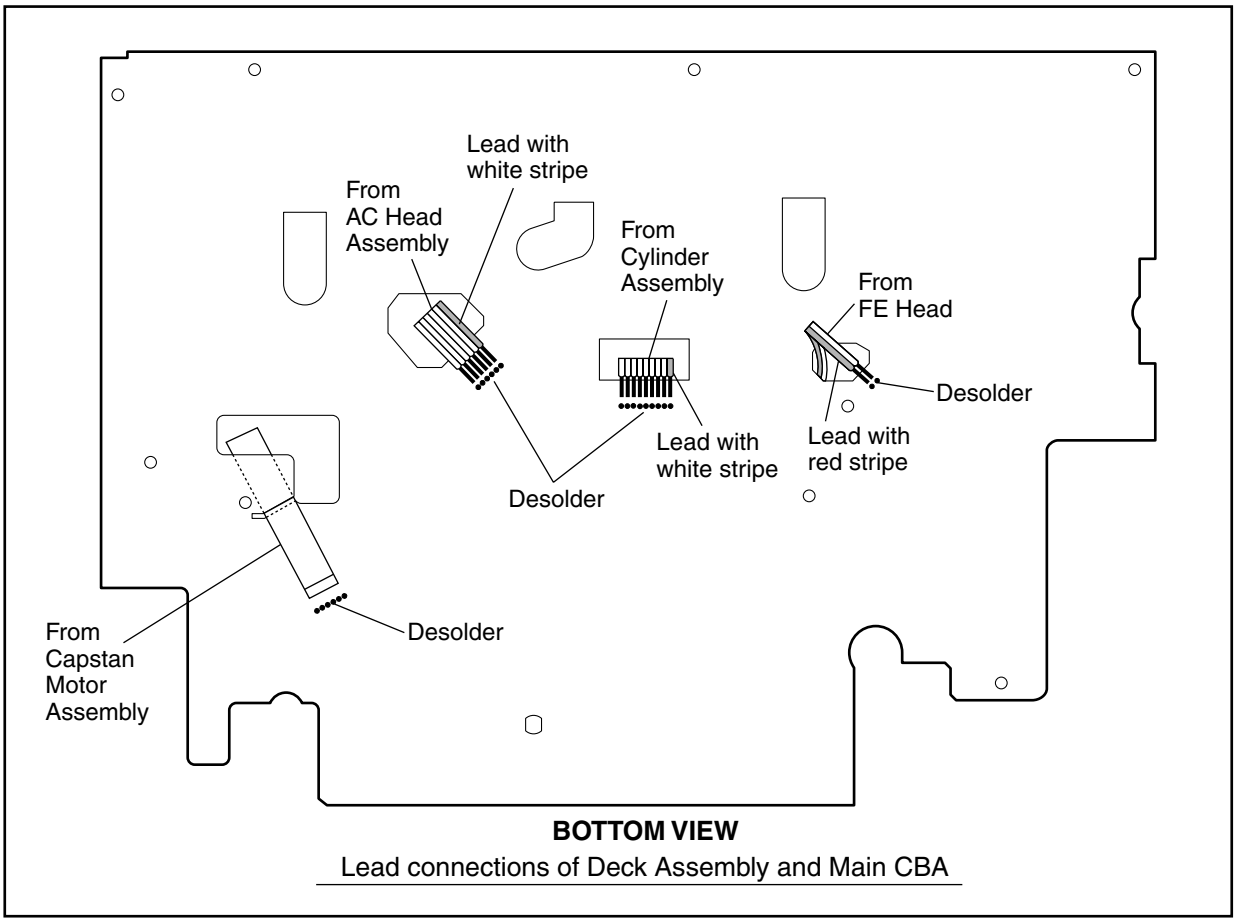


Fig. D7







BOTTOM VIEW

Lead connections of Deck Assembly and Main CBA

Fig. D8

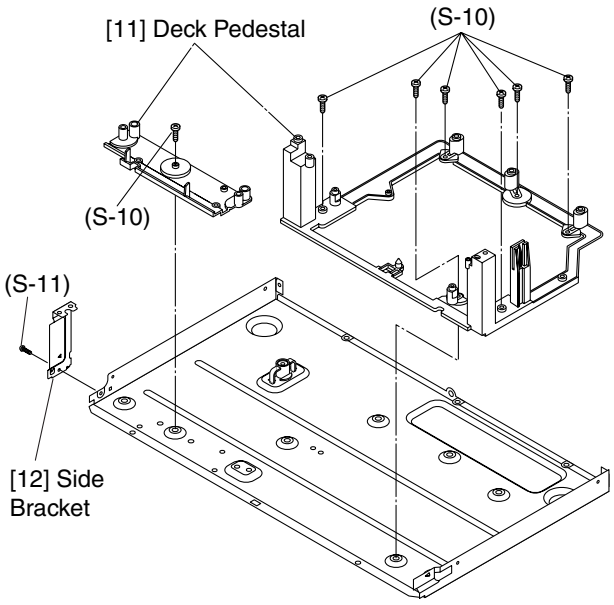
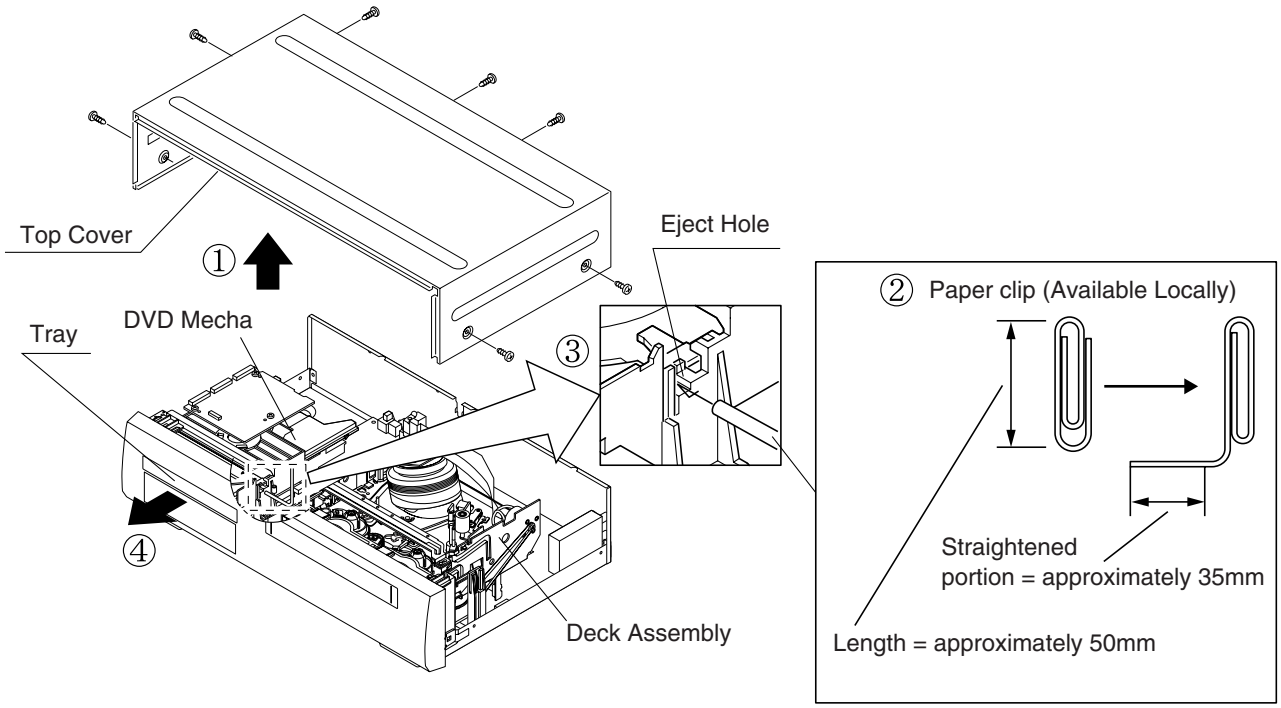


Fig. D9

HOW TO MANUAL EJECT

1. Remove the Top Case.
2. Make a tool from a paper clip, etc., (length = approximately 50 mm, maximum diameter = approximately 3 mm) as shown below.
3. Insert the tool into the manual eject hole on the DVD Mecha. Then, push it until the tray is ejected.



ELECTRICAL ADJUSTMENT INSTRUCTIONS

General Note: "CBA" is an abbreviation for "Circuit Board Assembly."

NOTE:

1. Electrical adjustments are required after replacing circuit components and certain mechanical parts. It is important to do these adjustments only after all repairs and replacements have been completed. Also, do not attempt these adjustments unless the proper equipment is available.
2. To perform these alignment / confirmation procedures, make sure that the tracking control is set in the center position: Press either "▼" or "▲" button on the remote control unit first, then the "PLAY" button (Front Panel only).

Test Equipment Required

1. Oscilloscope: Dual-trace with 10:1 probe,
   V-Range: 0.001~50V/Div.,
   F-Range: DC~AC-20MHz
2. Alignment Tape (FL8A)

Head Switching Position Adjustment

Purpose:

To determine the Head Switching point during playback.

Symptom of Misadjustment:

May cause Head Switching noise or vertical jitter in the picture.

Test point	Adj.Point	Mode	Input
TP751(V-OUT) TP302(RF-SW) GND	VR501 (Switching Point) (MAIN CBA)	PLAY (SP)	-----
Tape	**Measurement Equipment**	**Spec.**	
FL8A	Oscilloscope	6.5H±1H (412.7μs±60μs)	

Connections of Measurement Equipment

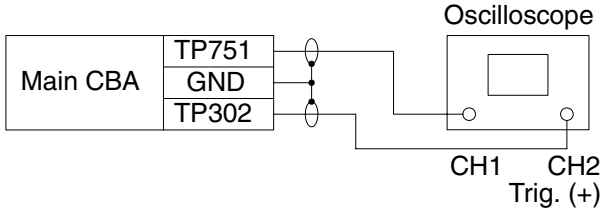
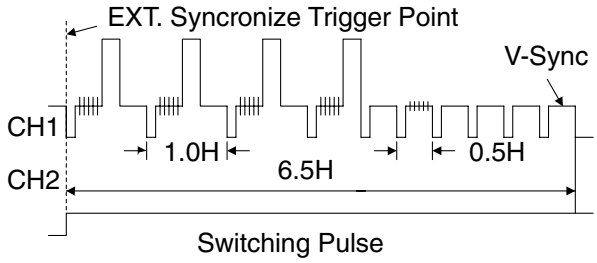


Figure 1



Reference Notes:

Play back the Alignment tape and adjust VR501 so that the V-sync front edge of the CH1 video output waveform is at the 6.5H(412.7μs) delayed position from the rising edge of the CH2 head switching pulse waveform.

ROM RENEWAL MODE

1. Turn the power on and remove the disc on the tray.
2. To put the DVD player into version up mode, press [9], [8], [7], [6], and [SEARCH MODE] buttons on the remote control unit in that order. The tray will open automatically.
   Fig. a appears on the screen and Fig. b appears on the VFD.

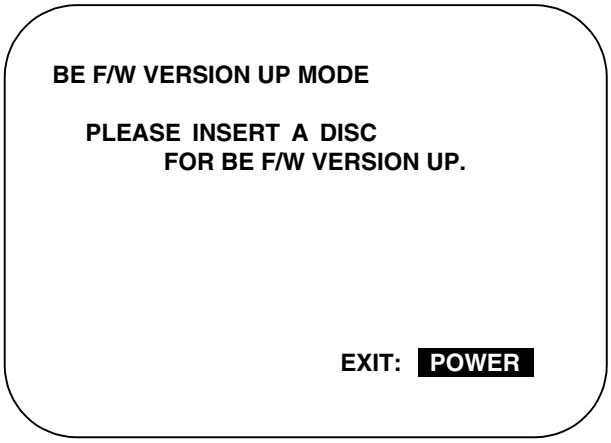


Fig. a Version Up Mode Screen

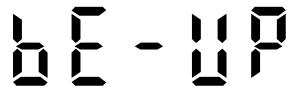


Fig. b VFD in Version Up Mode

   The DVD player can also enter the version up mode with the tray open. In this case, Fig. a will be shown on the screen while the tray is open.

3. Load the disc for version up. (For closing the tray, only the "OPEN/CLOSE" button is available.)
4. The DVD player enters the F/W version up mode automatically. Fig. c appears on the screen and Fig. d appears on the VFD.

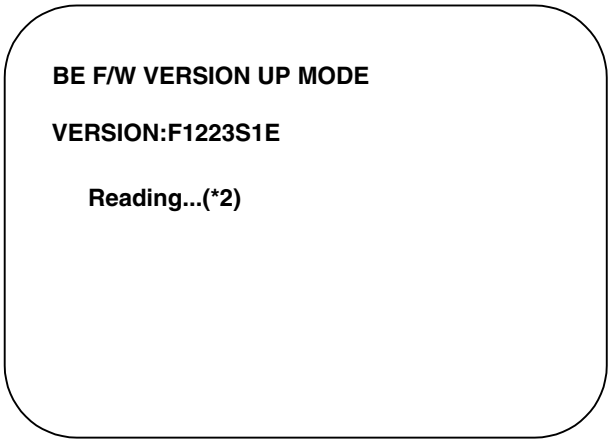


Fig. c Programming Mode Screen

Fig. d VFD in Programming Mode (Example)

   The appearance shown in (*2) of Fig. c is described as follows:

No.	Appearance	State
1	Reading...	Sending files into the memory
2	Erasing...	Erasing previous version data
3	Programming...	Writing new version data

5. After programming is finished, the tray opens automatically. Fig. e appears on the screen and the checksum in (*3) of Fig. e appears on the VFD. (Fig. f)

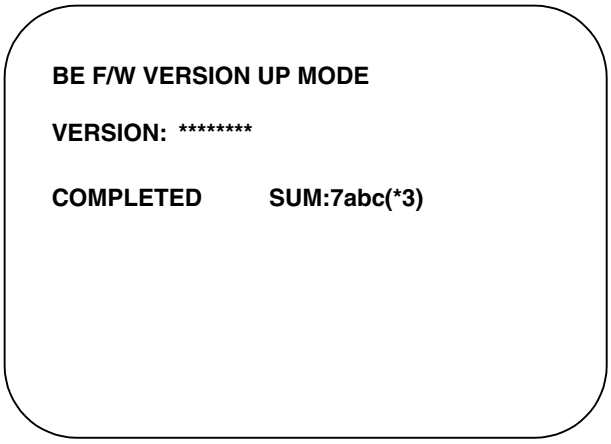


Fig. e Completed Program Mode Screen

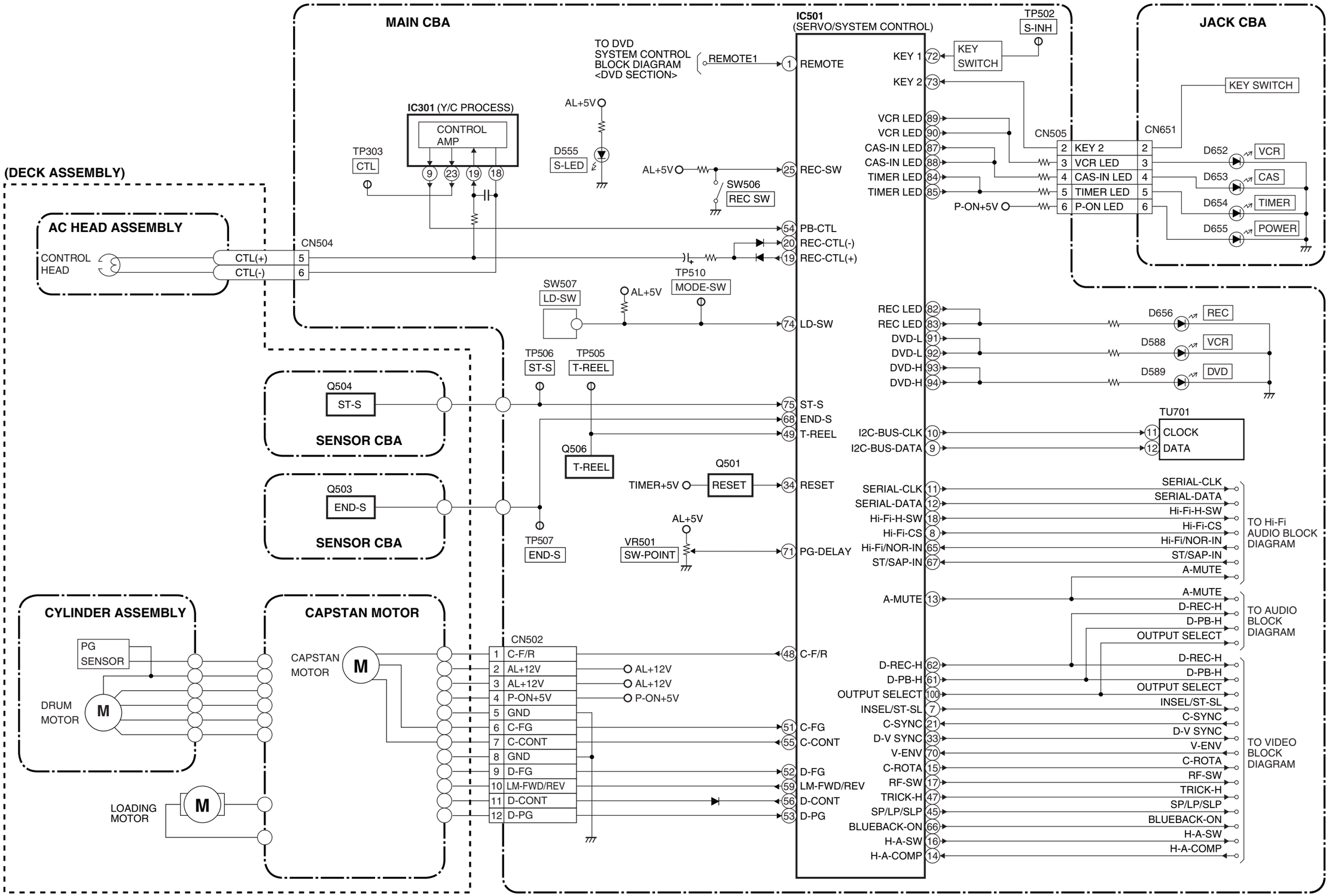
Fig. f VFD upon Finishing the Programing Mode (Example)

   At this time, no buttons are available.

6. For tray opening, plug the AC cord into the AC outlet.
7. Turn the power on by pressing the power button and the tray will close.

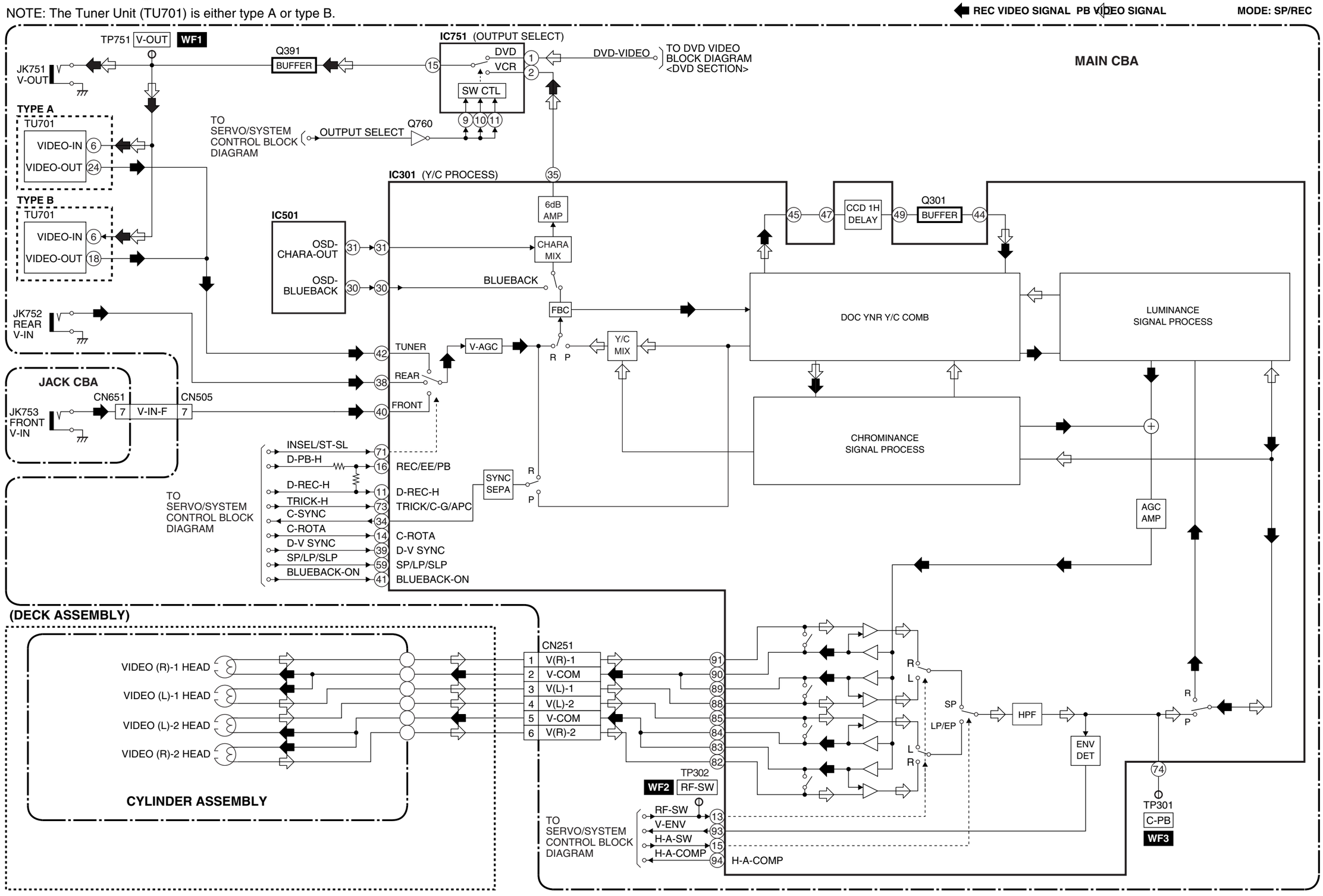
BLOCK DIAGRAMS < VCR Section >

Servo/System Control Block Diagram



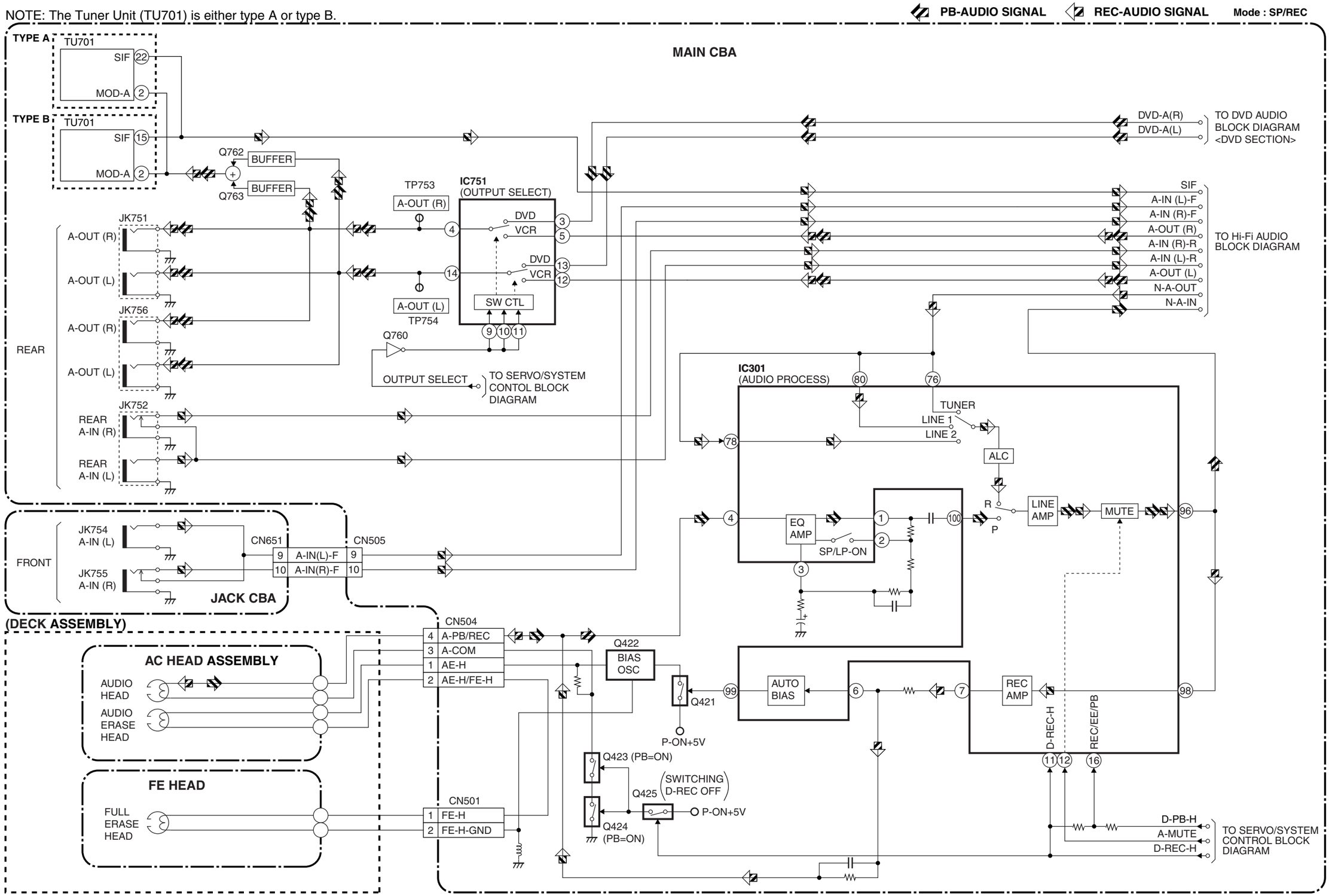
Video Block Diagram

NOTE: The Tuner Unit (TU701) is either type A or type B.

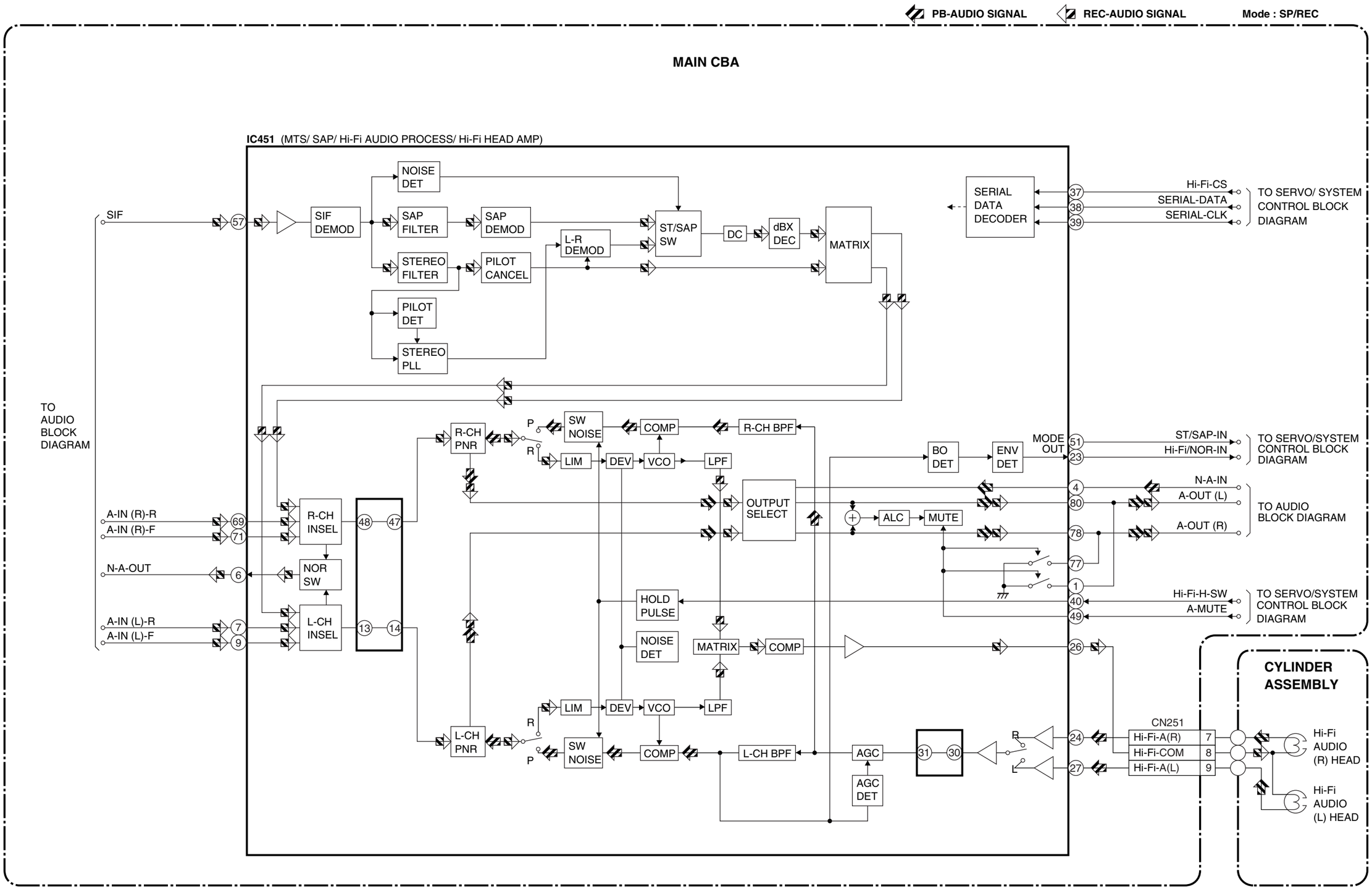


Audio Block Diagram

NOTE: The Tuner Unit (TU701) is either type A or type B.



Hi-Fi Audio Block Diagram



Power Supply Block Diagram

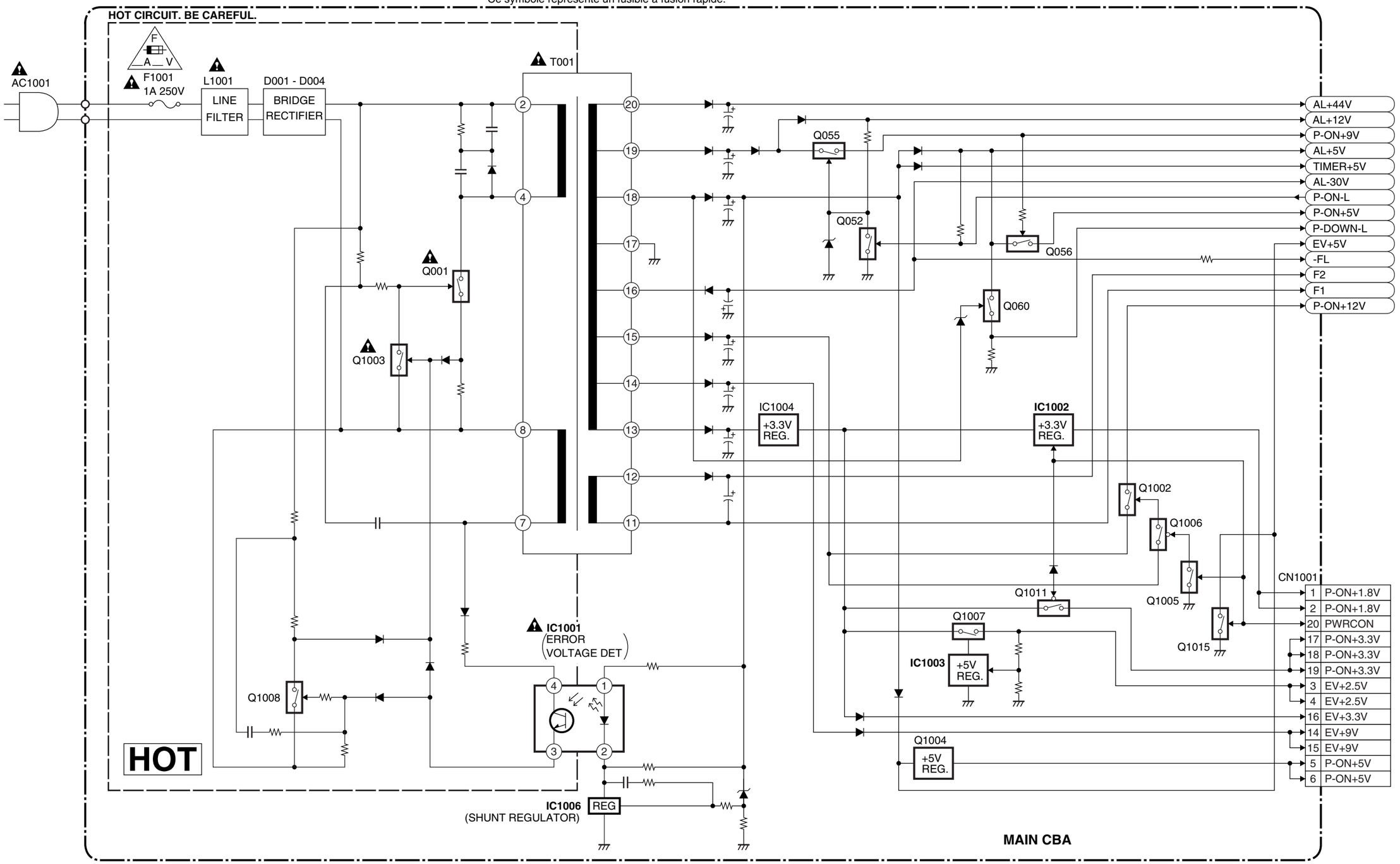
NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE -REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

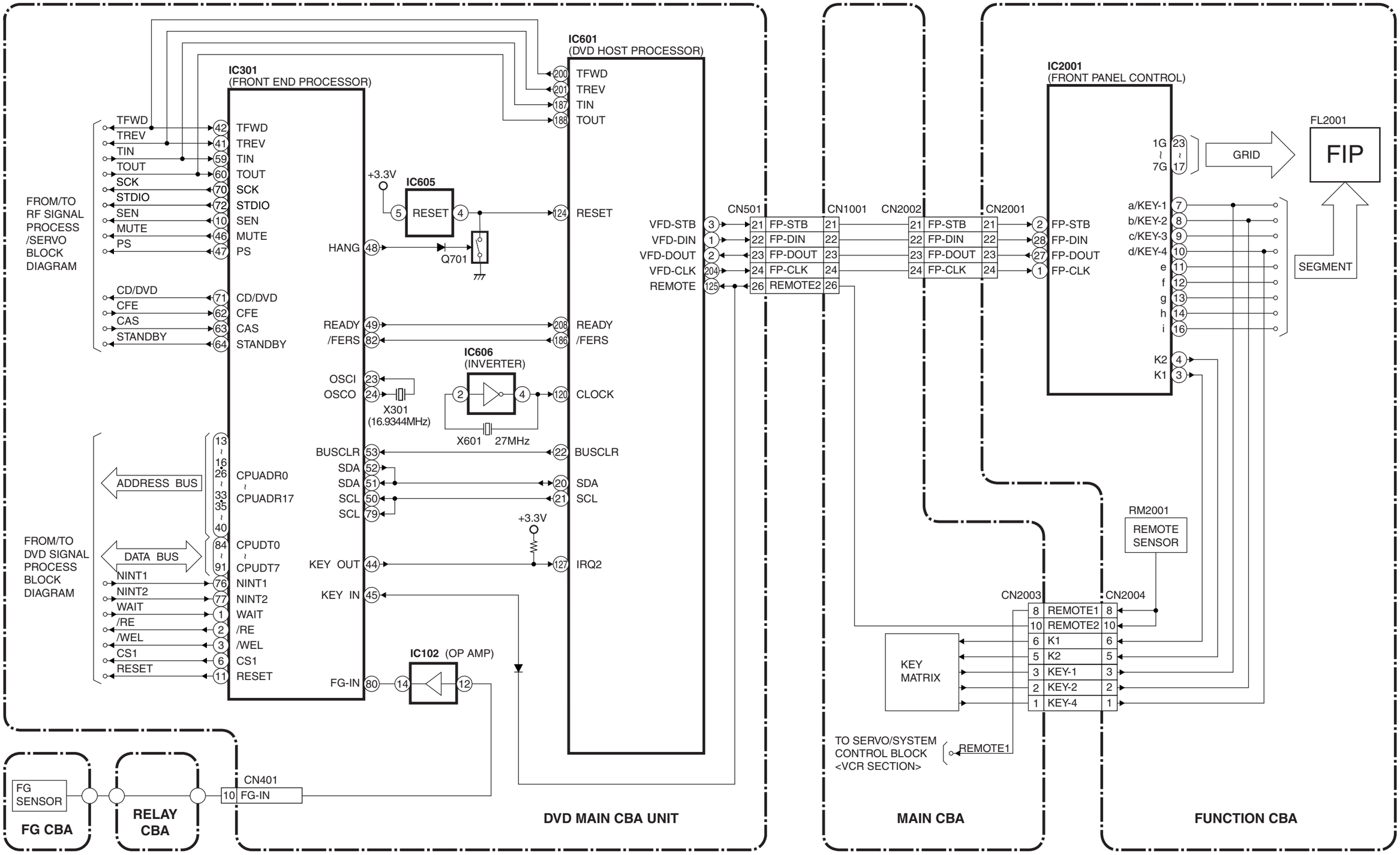
CAUTION !

If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

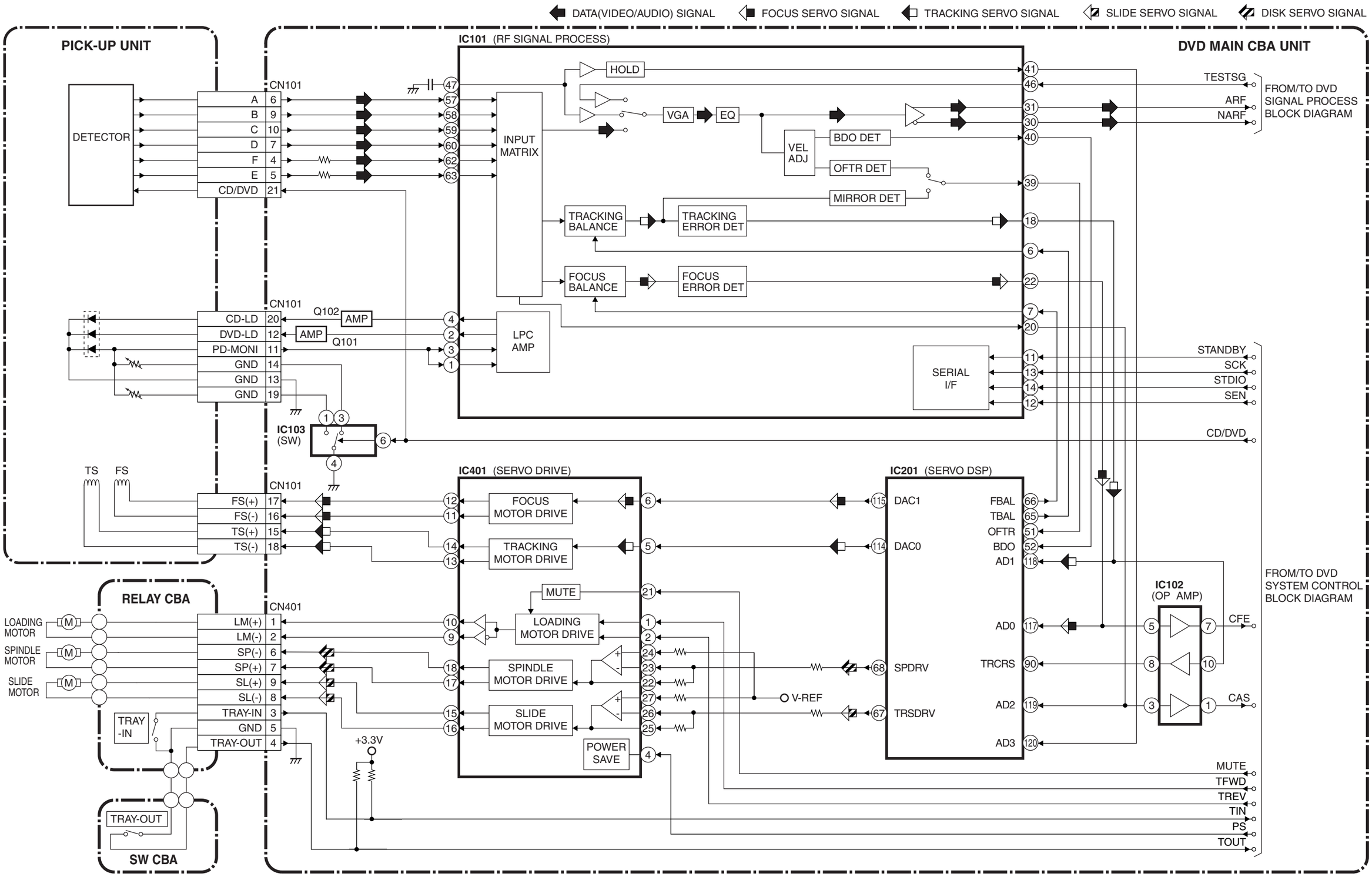
Fixed voltage power supply circuit is used in this unit.



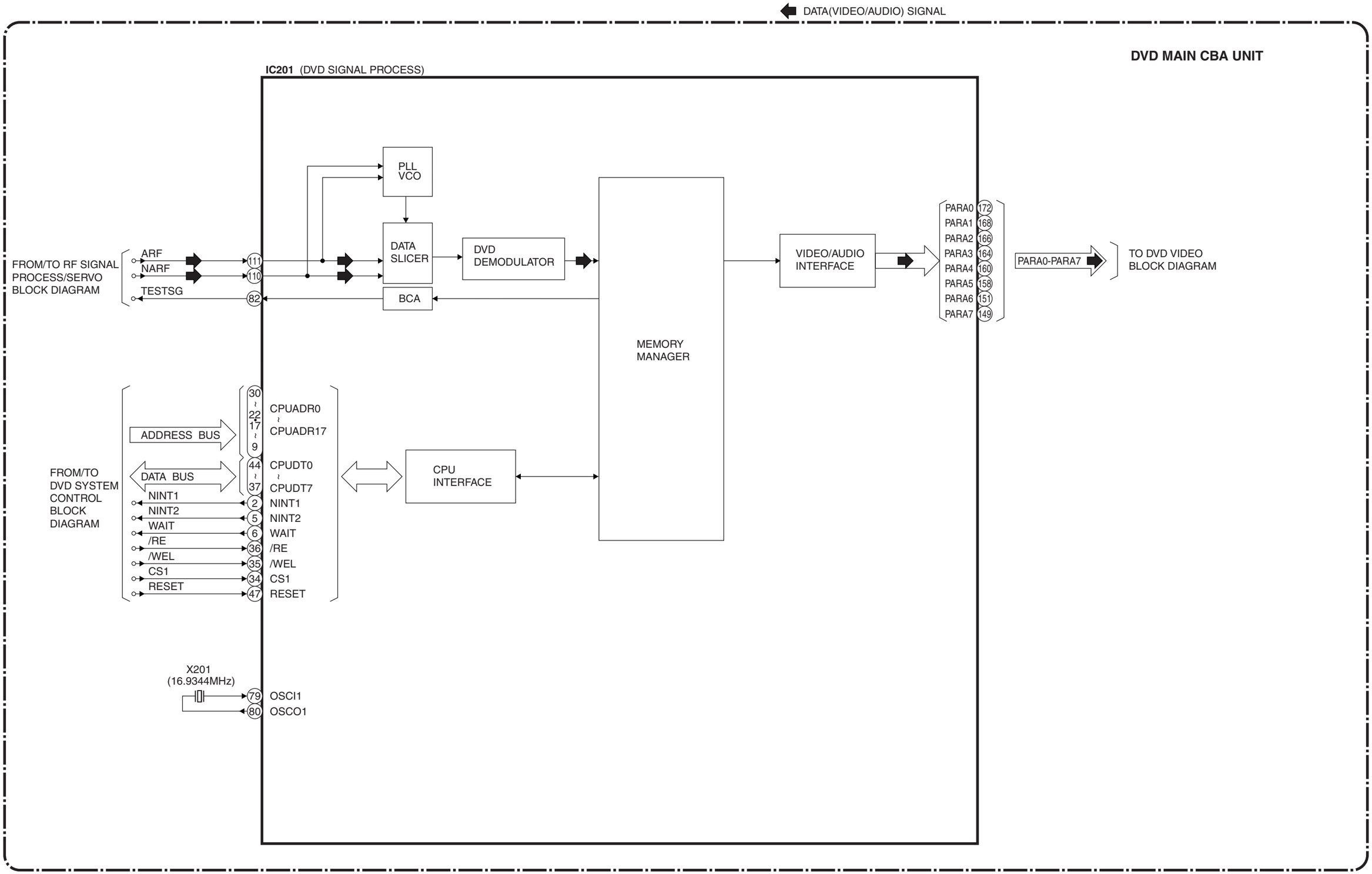
DVD System Control Block Diagram



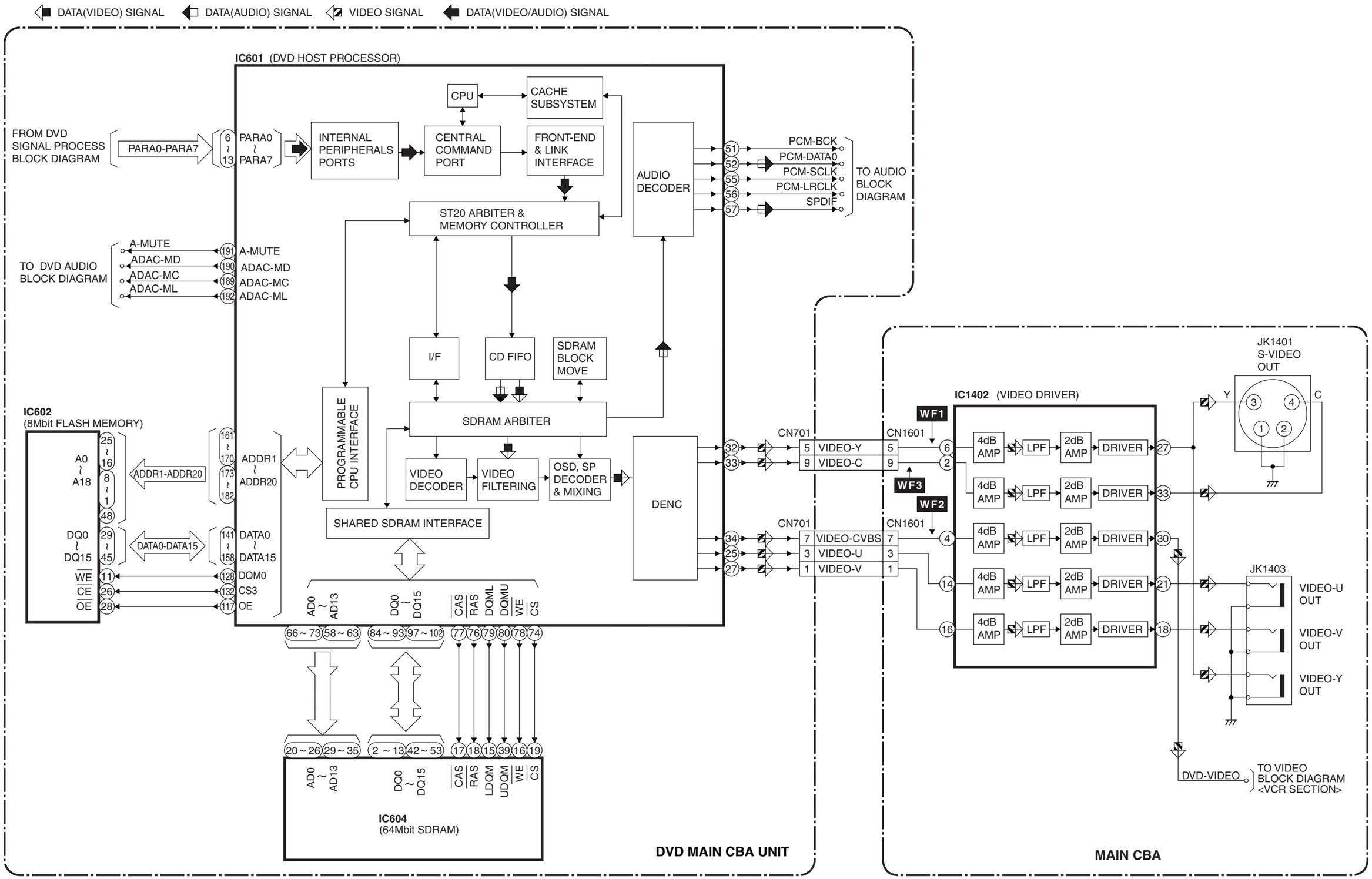
RF Signal Process/Servo Block Diagram



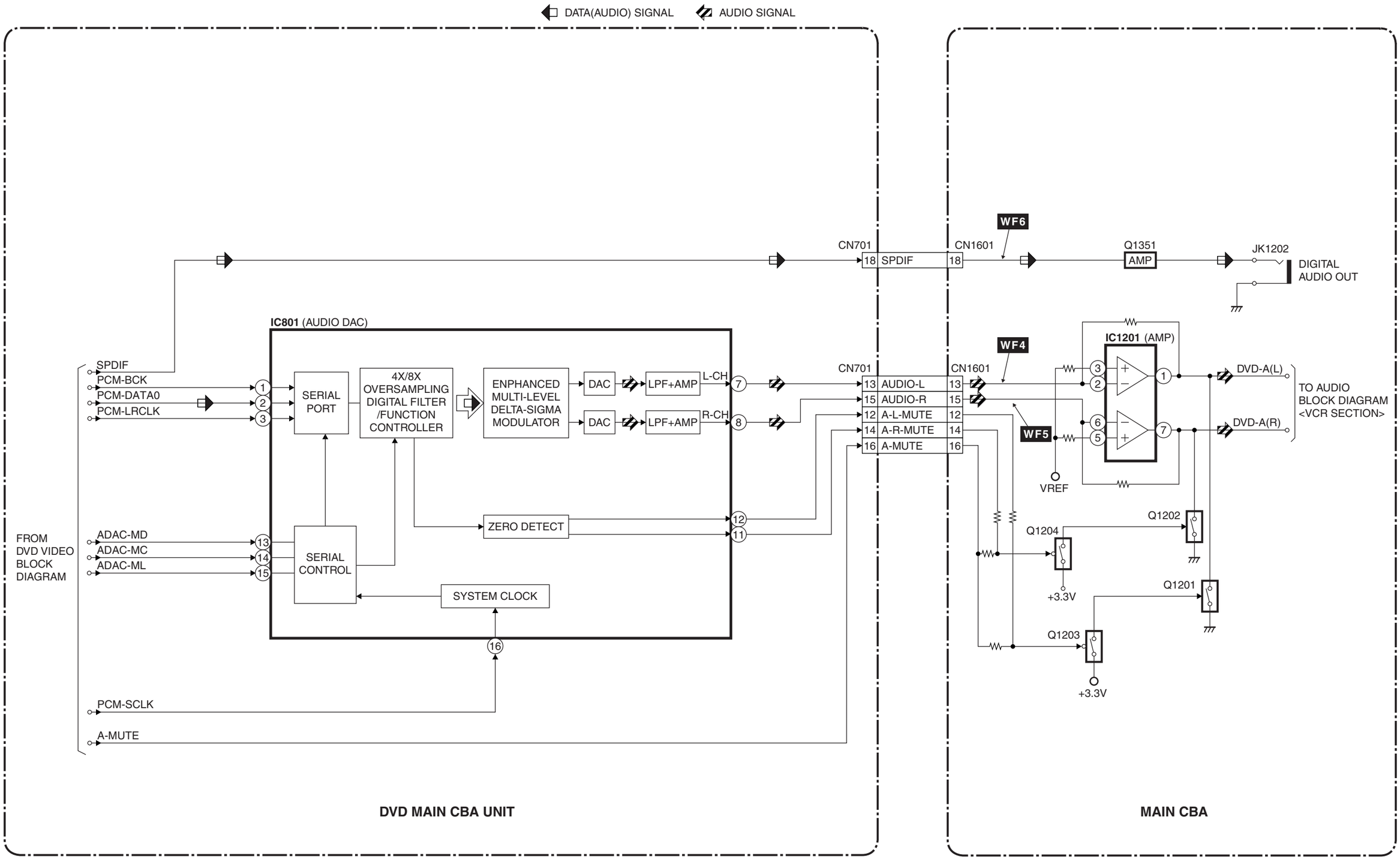
DVD Signal Process Block Diagram



DVD Video Block Diagram



DVD Audio Block Diagram



SCHEMATIC DIAGRAMS / CBA'S AND TEST POINTS

Standard Notes

WARNING

Many electrical and mechanical parts in this chassis have special characteristics. These characteristics often pass unnoticed and the protection afforded by them cannot necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts that have these special safety characteristics are identified in this manual and its supplements; electrical components having such features are identified by the mark " ⚠ " in the schematic diagram and the parts list. Before replacing any of these components, read the parts list in this manual carefully. The use of substitute replacement parts that do not have the same safety characteristics as specified in the parts list may create shock, fire, or other hazards.

Notes:

1. Do not use the part number shown on these drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since these drawings were prepared.
2. All resistance values are indicated in ohms ($K=10^3$, $M=10^6$).
3. Resistor wattages are 1/4W or 1/6W unless otherwise specified.
4. All capacitance values are indicated in μF ($P=10^{-6}$ μF).
5. All voltages are DC voltages unless otherwise specified.

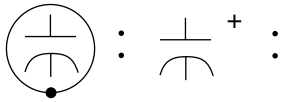
Capacitor Temperature Markings

Mark	Capacity change rate	Standard temperature	Temperature range
(B)	±10%	20°C	-25~+85°C
(F)	+30 - 80%	20°C	-25~+85°C
(SR)	±15%	20°C	-25~+85°C
(Z)	+30 - 80%	20°C	-10~+70°C

Capacitors and transistors are represented by the following symbols.

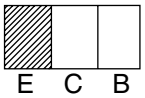
CBA Symbols

(Top View) (Bottom View)



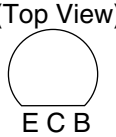
Electrolytic Capacitor

(Bottom View)



Transistor or Digital Transistor

(Top View)



NPN Transistor

(Top View)

PNP Transistor

(Top View)

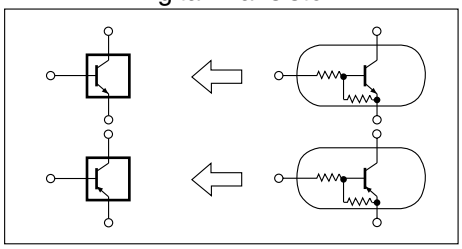
NPN Digital Transistor

(Top View)

PNP Digital Transistor

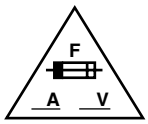
Schematic Diagram Symbols

Digital Transistor



LIST OF CAUTION, NOTES, AND SYMBOLS USED IN THE SCHEMATIC DIAGRAMS ON THE FOLLOWING PAGES:

1. **CAUTION:**



FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.

This symbol means fast operating fuse.
Ce symbole reprèsente un fusible à fusion rapide.

2. **CAUTION:**

Fixed Voltage (or Auto voltage selectable) power supply circuit is used in this unit.
If Main Fuse (F1001) is blown, first check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

3. **Note:**

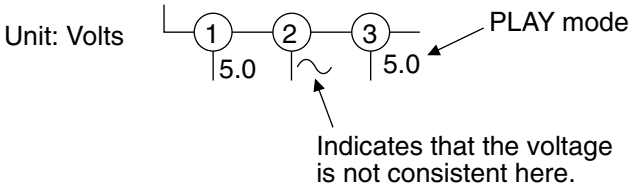
(1) Do not use the part number shown on the drawings for ordering. The correct part number is shown in the parts list, and may be slightly different or amended since the drawings were prepared.
(2) To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Wire Connectors

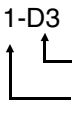
(1) Prefix symbol "CN" means "connector" (can disconnect and reconnect).
(2) Prefix symbol "CL" means "wire-solder holes of the PCB" (wire is soldered directly).

5. Mode: SP

6. Voltage indications for PLAY mode on the schematics are as shown below:

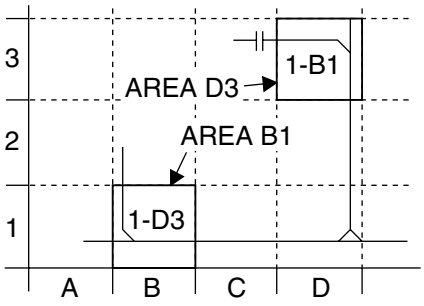


7. How to read converged lines



Examples:

1. "1-D3" means that line number "1" goes to area "D3".
2. "1-B1" means that line number "1" goes to area "B1".



8. Test Point Information

: Indicates a test point with a jumper wire across a hole in the PCB.

: Used to indicate a test point with a component lead on foil side.

: Used to indicate a test point with no test pin.

: Used to indicate a test point with a test pin.

Main 1/5 Schematic Diagram < VCR Section >

***1 Note:**
When it is necessary to replace one or more of the following Diodes, all three should be replaced: D588, D589, D656.

REC Video Signal
REC Audio Signal
PB Video Signal
PB Audio Signal

MAIN CBA
SYSCON/TIMER/SERVO BLOCK

SENSOR CBA

SWITCHES ARE KSM0614B.

IC501
QSZAAORMB116
SYSTEM CONTROL MICROPROCESSOR

OUTPUT-SELECT

Main 1/5 Schematic Diagram

Ref. No	Position
ICS	
IC501	D-3
TRANSISTORS	
Q501	E-2
Q503	A-3
Q504	A-3
Q506	B-2
CONNECTORS	
CN501	F-4
CN502	F-4
CN504	F-5
CN505	A-5
VARIABLE RESISTORS	
VR501	B-3
TEST POINTS	
TP502	D-5
TP505	B-2
TP506	B-3
TP507	B-3

Main 2/5 Schematic Diagram < VCR Section >

PB Video + DVD Video Signal
DVD Video Signal
PB Video Signal
PB Audio Signal
REC Video Signal
REC Audio Signal

★2 Note:
The Tuner Unit (TU701) is either type A or type B.
These two types are exchangeable and can be equally used whichever the model is. The difference between type A and type B is shown in the table below.

	TU701	J306	J308	J311
TYPE A	UTUNNTUSP022	NU	NU	NU
TYPE B	UTUNNTUAL030	WIRE	WIRE	WIRE

NU: Not Used

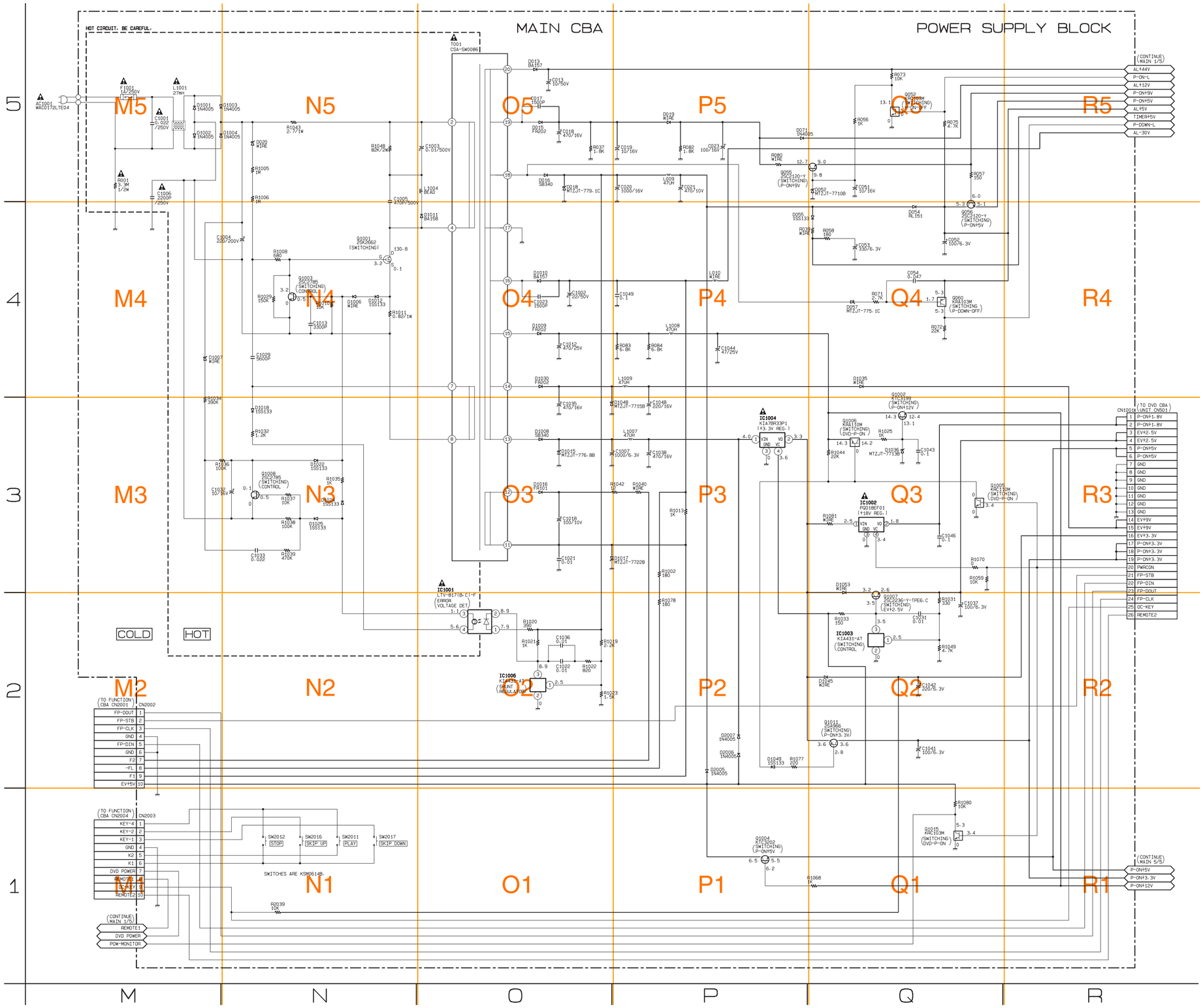
Main 2/5 Schematic Diagram

Ref. No	Position
ICS	
IC301	H-2
IC751	L-3
TRANSISTORS	
Q301	J-3
Q302	J-4
Q303	J-4
Q391	J-2
Q421	H-2
Q422	G-1
Q423	G-1
Q424	G-1
Q425	H-1
Q760	K-2
Q762	L-2
Q763	L-2
CONNECTORS	
CN251	G-5
TEST POINTS	
TP301	H-4
TP302	H-1
TP303	I-2
TP751	L-2

Main 3/5 Schematic Diagram < VCR Section >

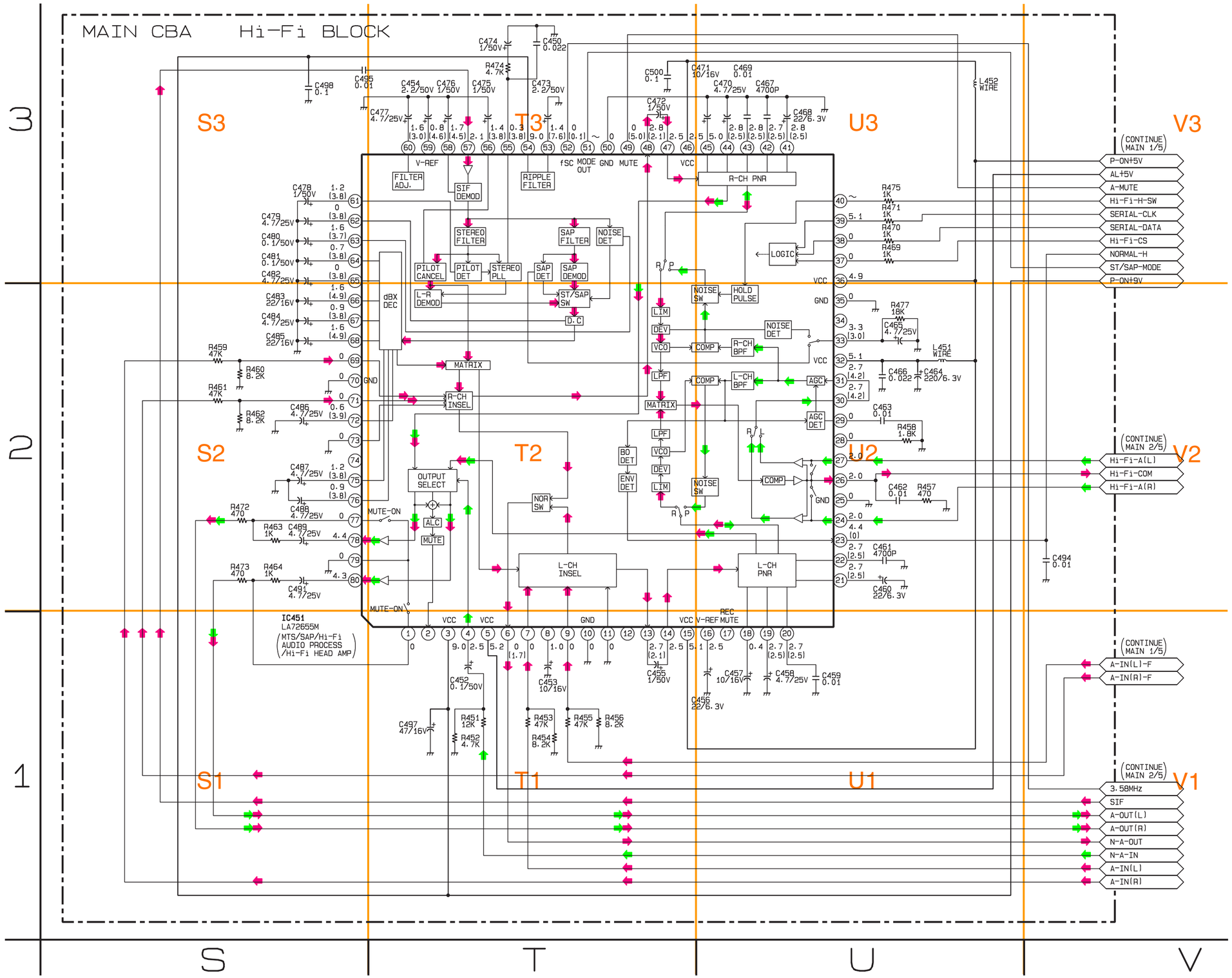
Main 3/5 Schematic Diagram

Ref. No	Position
ICS	
IC1001	O-2
IC1002	Q-3
IC1003	Q-2
IC1004	P-3
IC1006	O-2
TRANSISTORS	
Q052	Q-5
Q055	P-5
Q056	Q-4
Q060	Q-4
Q1001	N-4
Q1002	Q-3
Q1003	N-4
Q1004	P-1
Q1005	Q-3
Q1006	Q-3
Q1007	Q-2
Q1008	N-3
Q1011	Q-2
Q1015	Q-1
CONNECTORS	
CN1001	R-3
CN2002	M-2
CN2003	M-1



Main 4/5 Schematic Diagram < VCR Section >

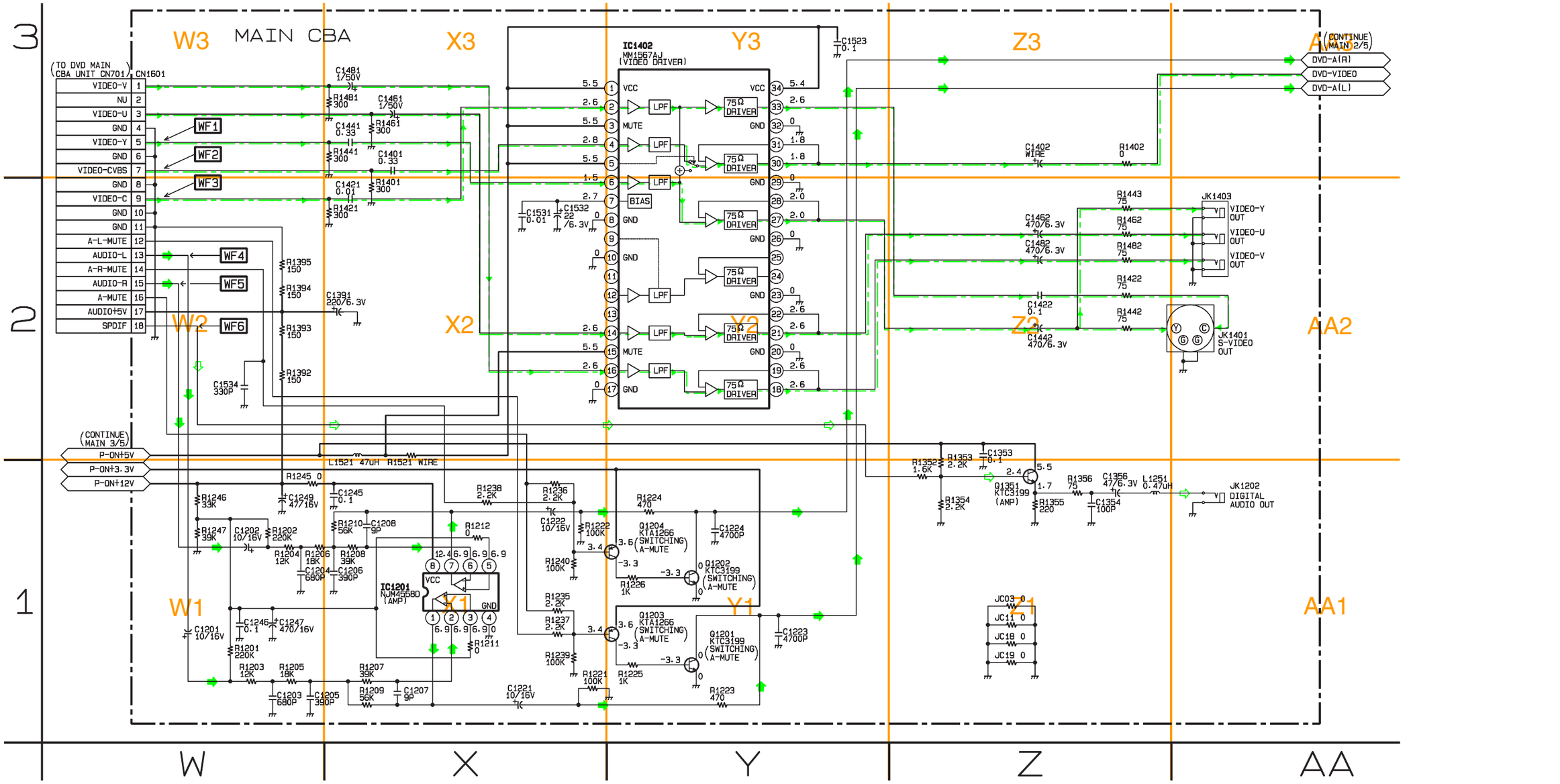
REC Video Signal
REC Audio Signal
PB Video Signal
PB Audio Signal



Main 5/5 Schematic Diagram < VCR Section >

Main 5/5 Schematic Diagram

Ref. No	Position
ICS	
IC1201	X-1
IC1402	Y-3
TRANSISTORS	
Q1201	Y-1
Q1202	Y-1
Q1203	Y-1
Q1204	Y-1
Q1351	Z-1
CONNECTORS	
CN1601	W-3



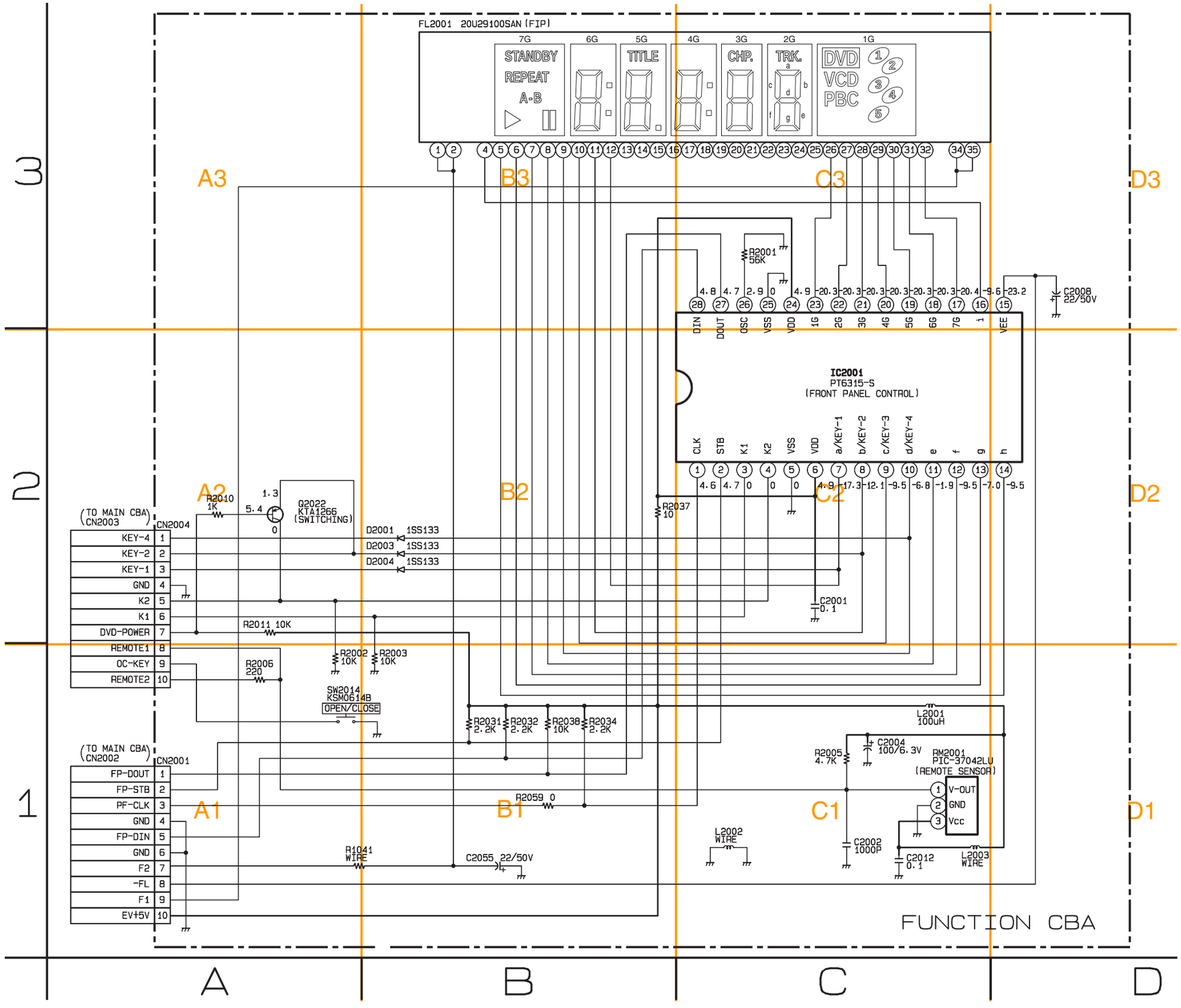
Function Schematic Diagram < VCR Section >

FL2001 MATRIX CHART

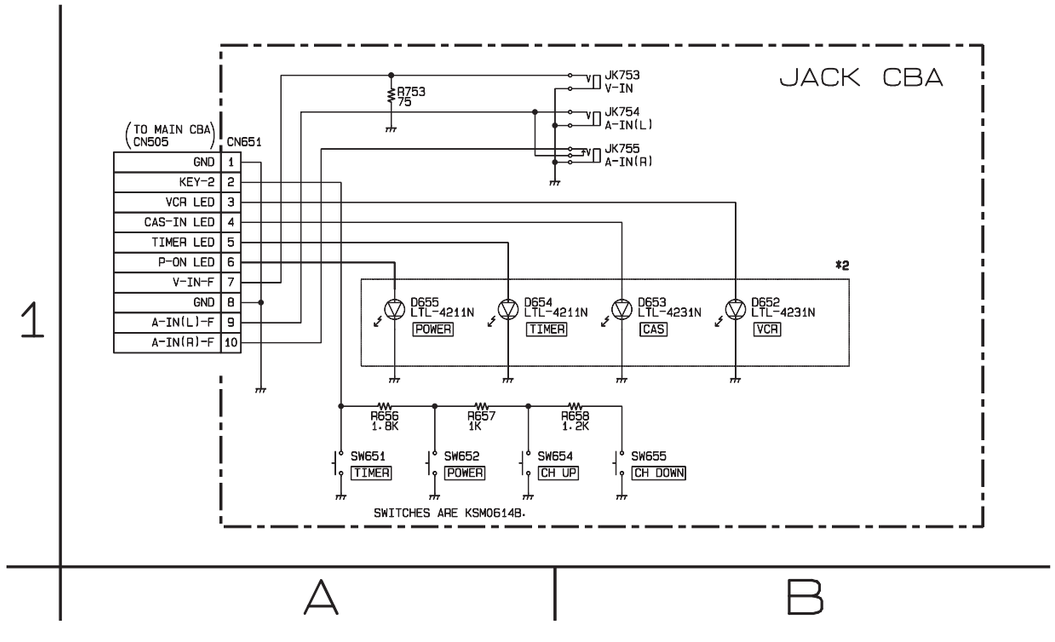
	7G	6G	5G	4G	3G	2G	1G
a	STANDBY	a	a	a	a	a	1
b	REPEAT	b	b	b	b	b	2
c	A	c	c	c	c	c	3
d	-B	d	d	d	d	d	4
e	▷	e	e	e	e	e	5
f	▯▯	f	f	f	f	f	DVD
g	——	g	g	g	g	g	PBC
h	——	□ □	TITLE	□ □	CHP.	TRK.	CD
i	——	——	□	——	——	——	V

Function Schematic Diagram

Ref. No	Position
ICS	
IC2001	C-2
TRANSISTORS	
Q2022	K-2
CONNECTORS	
CN2001	K-1
CN2004	K-2



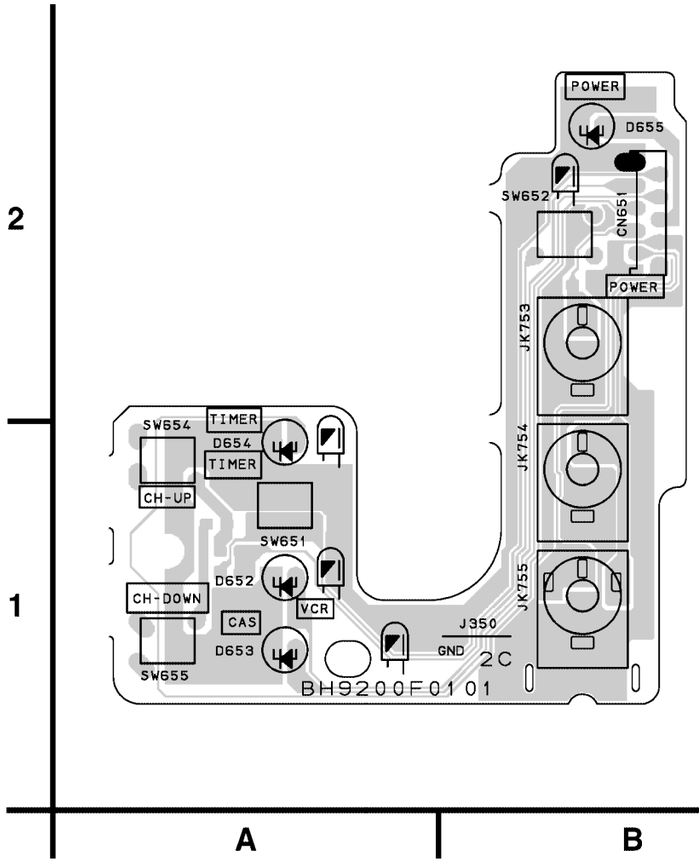
Jack Schematic Diagram < VCR Section >



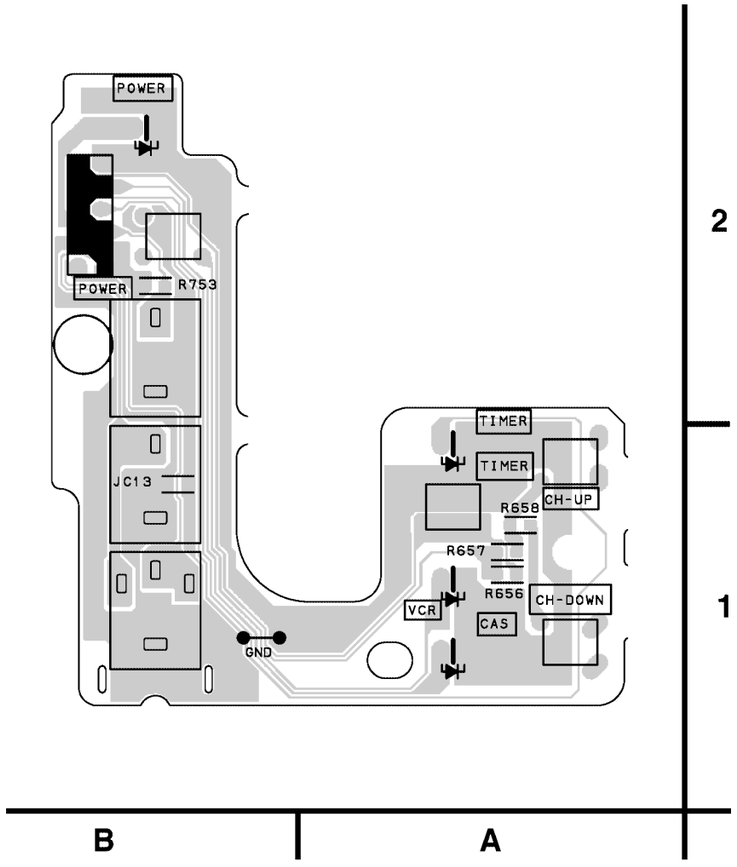
***2 Note:**
When it is necessary to replace one or more of the following Diodes, all four should be replaced: D652, D653, D654, D655.

H9200SCJ

Jack CBA Top View

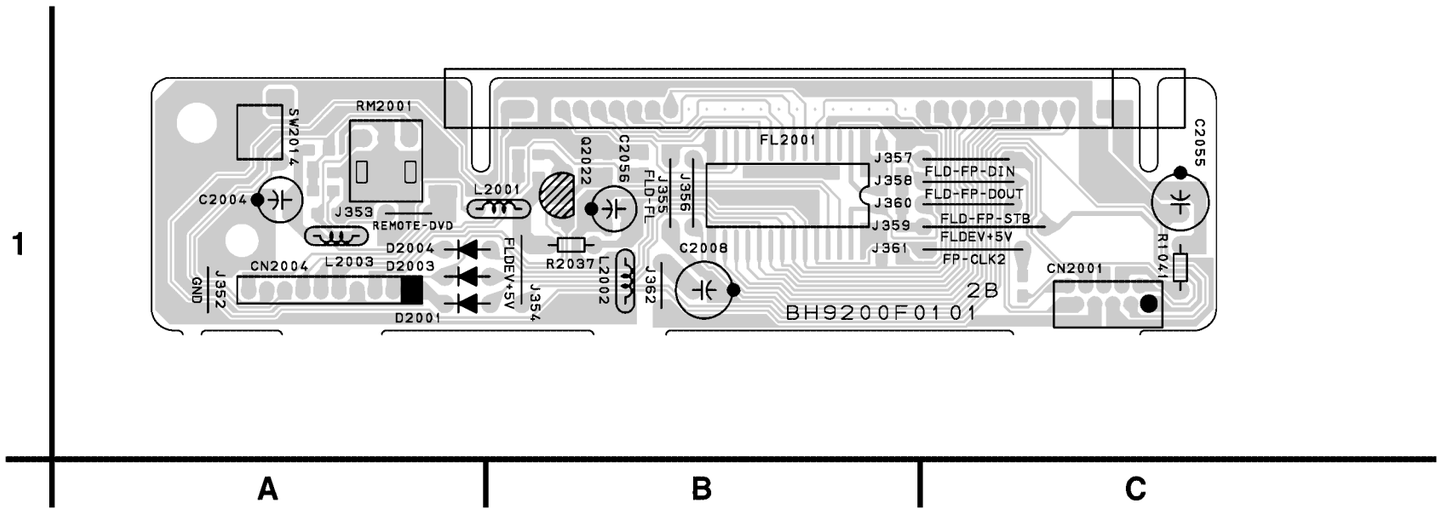


Jack CBA Bottom View

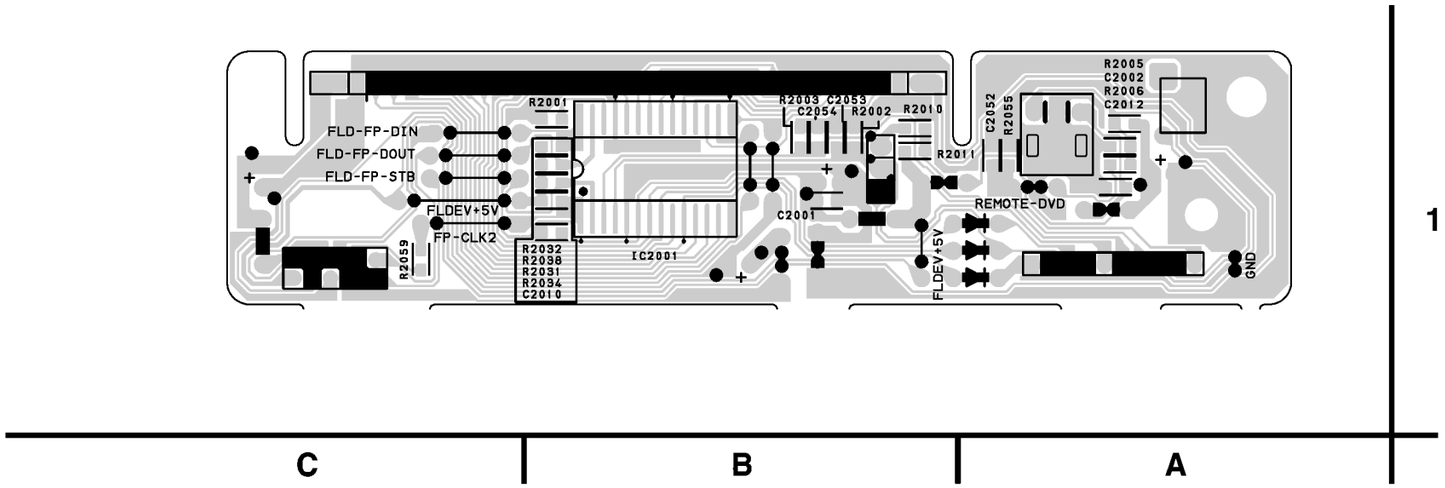


BH9200F01012-C

Function CBA Top View



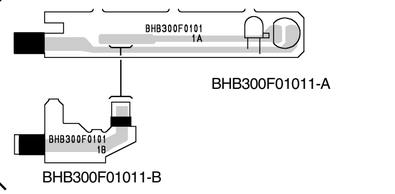
Function CBA Bottom View



BH9200F01012-B

Main CBA Top View

Sensor CBA Top View (End Sensor)



CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE FUSE.
ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES
D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
"Ce symbole représente un fusible à fusion rapide."

BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

WF1
TP751
V-OUT

WF5
TP301
C-PB

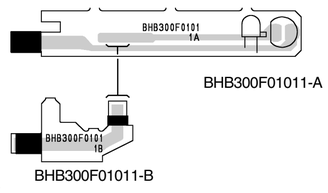
WF2
TP302
RF-SW

TP502
S-INH

TP303
CTL

VR501
SW-P

Sensor CBA Top View (Start Sensor)



Main CBA Bottom View

CAUTION !
Fixed voltage power supply circuit is used in this unit.
If Main Fuse (F001) is blown, check to see that all components in the power supply circuit are not defective before you connect the AC plug to the AC power supply. Otherwise it may cause some components in the power supply circuit to fail.

CAUTION
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
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ATTENTION : POUR UNE PROTECTION CONTINUE LES RISQES D'INCELE N'UTILISER QUE DES FUSIBLE DE MEMO TYPE.
RISK OF FIRE-REPLACE FUSE AS MARKED.
"This symbol means fast operating fuse."
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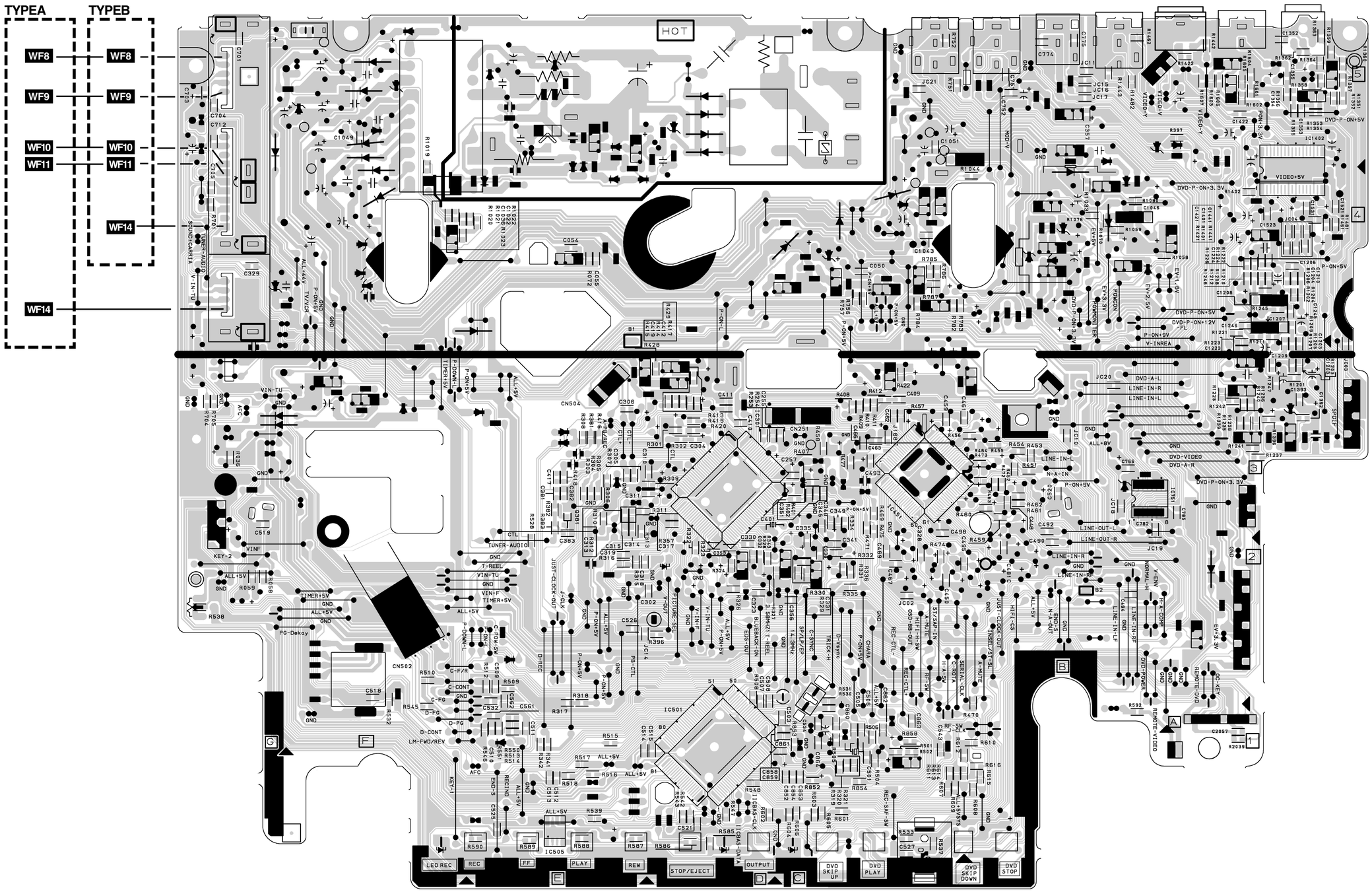
BECAUSE A HOT CHASSIS GROUND IS PRESENT IN THE POWER SUPPLY CIRCUIT , AN ISOLATION TRANSFORMER MUST BE USED. ALSO , IN ORDER TO HAVE THE ABILITY TO INCREASE THE INPUT SLOWLY , WHEN TROUBLESHOOTING THIS TYPE POWER SUPPLY CIRCUIT , A VARIABLE ISOLATION TRANSFORMER IS REQUIRED.

NOTE :
The voltage for parts in hot circuit is measured using hot GND as a common terminal.

Main CBA

Ref.No	Position
ICS	
IC301	D-3
IC451	C-3
IC501	D-1
IC751	A-3
IC1001	E-4
IC1002	A-4
IC1003	B-5
IC1004	B-5
IC1006	F-4
IC1201	A-4
IC1402	A-5
TRANSISTORS	
Q052	C-4
Q055	C-4
Q056	C-4
Q060	E-4
Q301	D-2
Q302	C-2
Q303	C-2
Q391	B-5
Q421	C-3
Q422	B-3
Q423	E-3
Q424	D-3
Q425	D-3
Q501	C-1
Q503	B-3
Q504	F-3
Q506	D-2
Q760	A-2
Q762	C-4
Q763	C-4
Q1001	E-5
Q1002	C-4
Q1003	E-5
Q1004	B-4
Q1005	B-4
Q1006	C-4
Q1007	B-4
Q1008	E-5
Q1011	B-4
Q1015	A-4
Q1201	A-3
Q1202	A-4
Q1203	A-3
Q1204	A-3
Q1351	A-5
CONNECTORS	
CN251	C-3
CN501	B-3
CN502	F-2
CN504	E-3
CN505	F-3
CN651	F-2
CN1001	A-2
CN1601	A-3
CN2002	A-3
CN2003	A-1
VARIABLE RESISTORS	
VR501	F-2
TEST POINTS	
TP301	B-2
TP302	B-2
TP303	F-3
TP502	B-2
TP505	F-3
TP506	F-2
TP507	B-3
TP751	C-5

Note:
The Tuner Unit (TU701) is either type A or type B.
Wave Form will be different. It depends on the type of tuner used on the unit you are servicing.



DVD Main 1/4 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO)
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLIDE SERVO SIGNAL

DVD MAIN 1/4

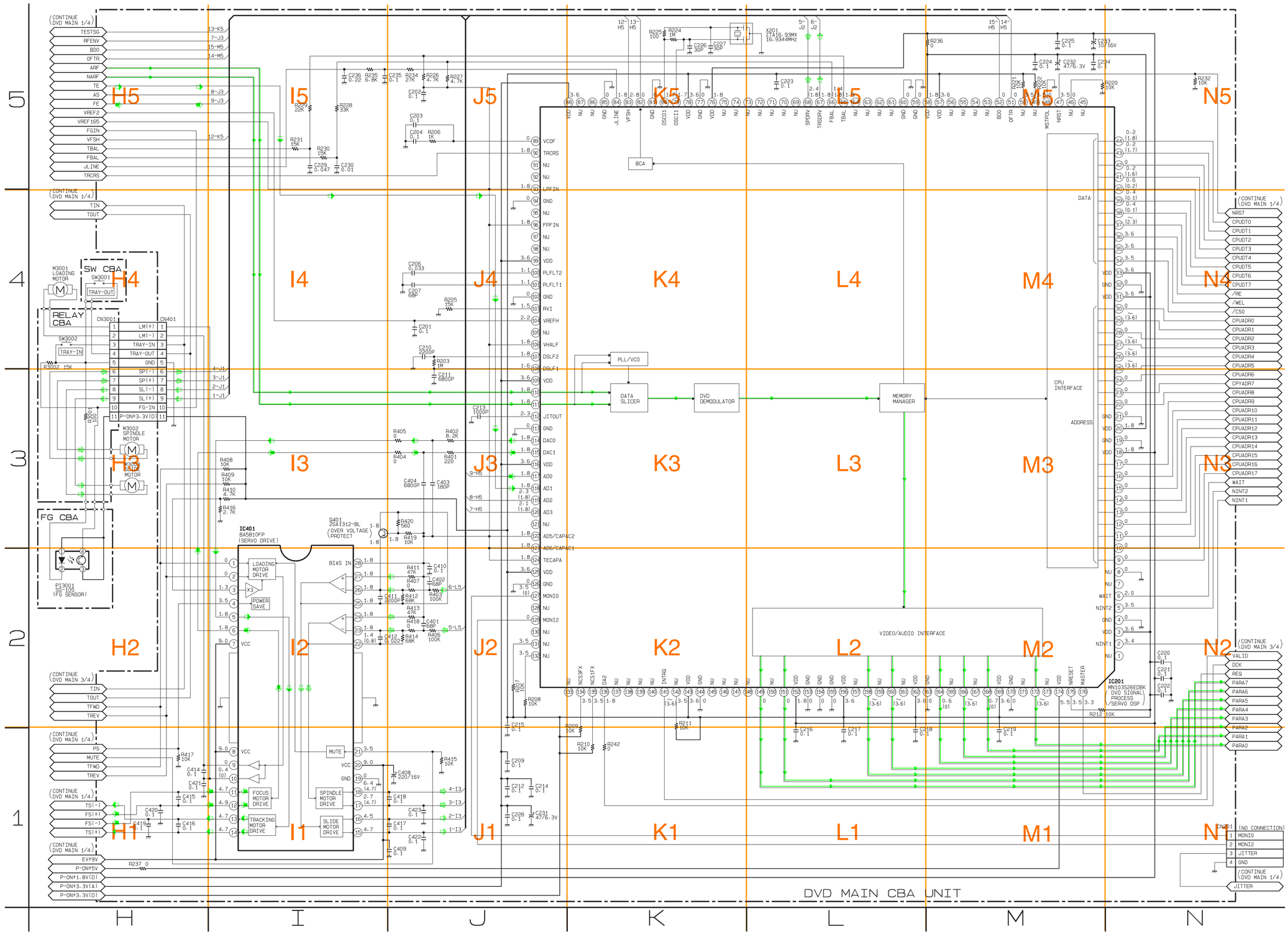
Ref No.	Position
ICS	
IC101	C-4
IC102	F-5
IC103	B-3
IC301	E-2
TRANSISTORS	
Q101	B-3
Q102	B-3
CONNECTORS	
CN101	A-4
CN301	G-1
CN302	G-2
CN501	A-2

DVD Main 2/4 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO)
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLIDE SERVO SIGNAL

DVD MAIN 2/4

Ref No.	Position
ICS	
IC201	N-2
IC401	I-3
TRANSISTORS	
Q401	I-3
CONNECTORS	
CN201	N-1
CN401	H-4



DVD Main 3/4 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO)
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLIDE SERVO SIGNAL

DVD MAIN 3/4

Ref No.	Position
ICS	
IC601	T-1
IC602	O-3
IC605	O-5
IC606	O-4
IC608	P-4
TRANSISTORS	
Q701	P-5
CONNECTORS	
CN601	O-5

DVD MAIN CBA UNIT

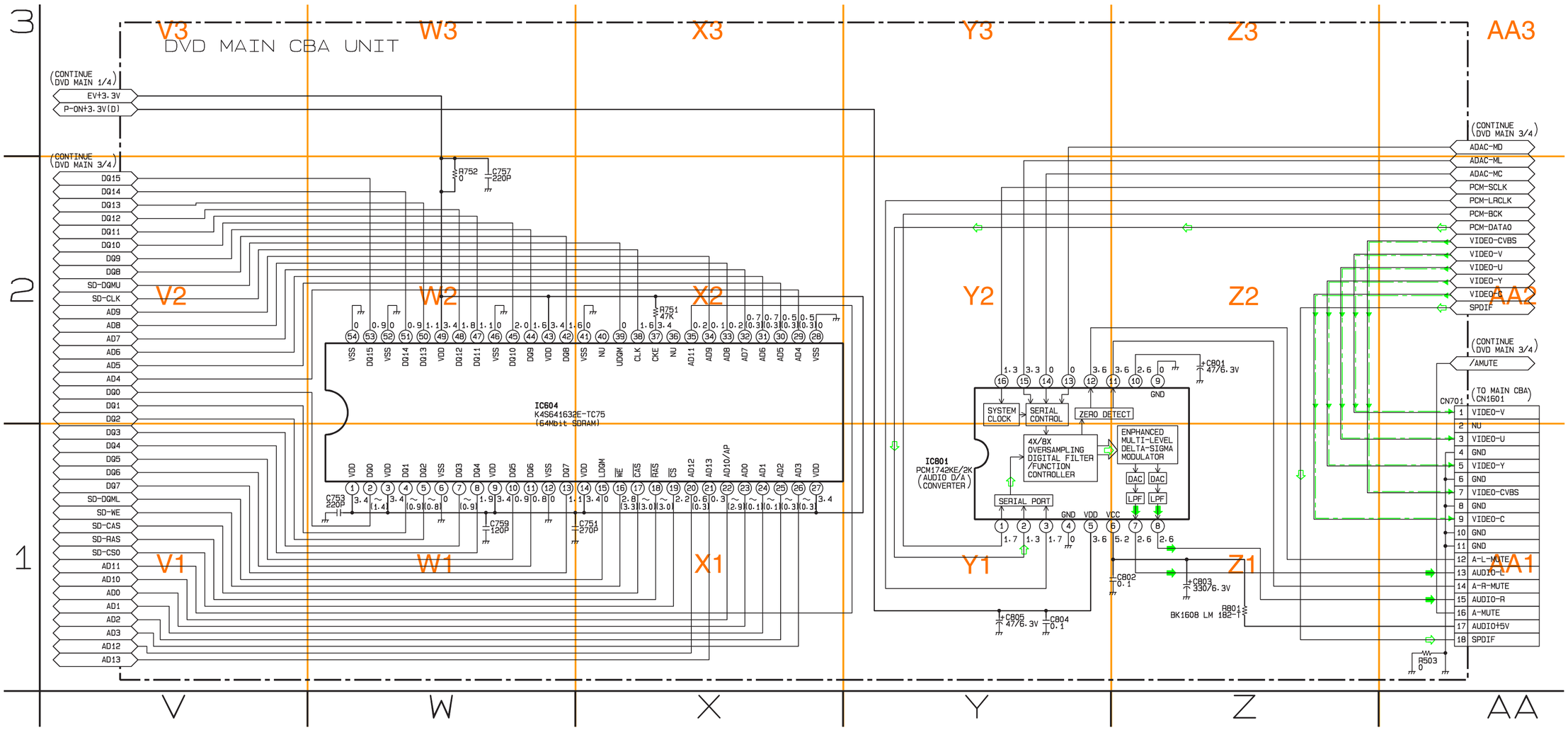
1-11-35 1-11-36 1-11-37 H9200SCD3

DVD Main 4/4 Schematic Diagram < DVD Section >

DATA(VIDEO+AUDIO)
FOCUS SERVO SIGNAL
TRACKING SERVO SIGNAL
SPINDLE SERVO SIGNAL
SLIDE SERVO SIGNAL

DVD MAIN 4/4

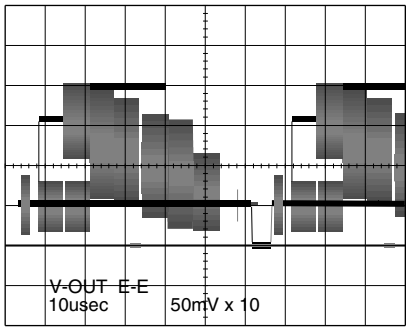
Ref No.	Position
ICS	
IC604	W-2
IC801	Y-1
CONNECTOR	
CN701	AA-2



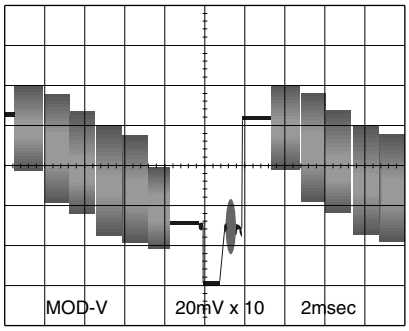
WAVEFORMS

NOTE:
The Tuner Unit (TU701) is either type A or type B. Wave Form will be different. It depends on the type of tuner used on the unit you are servicing.

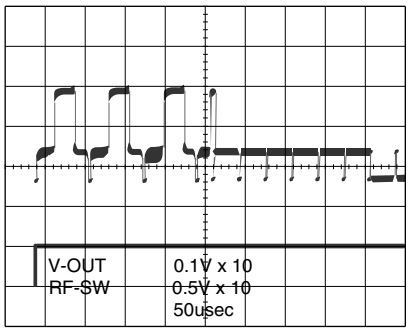
WF 1



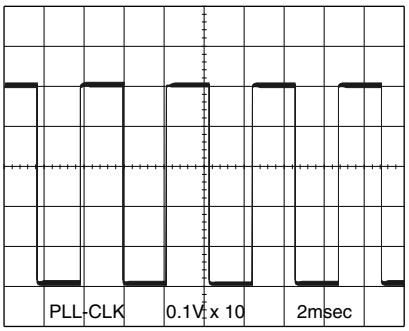
WF9



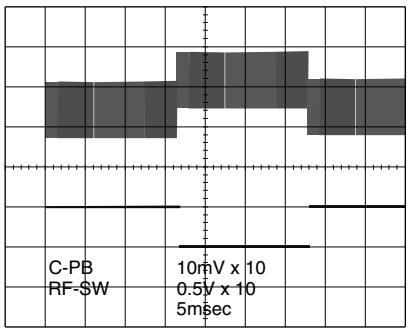
WF1 UPPER **WF2** LOWER



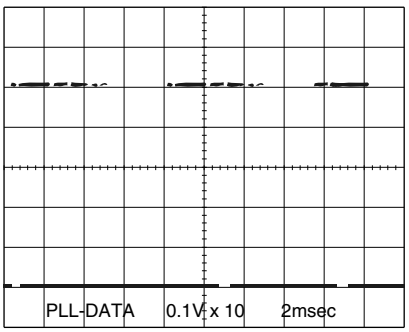
WF10



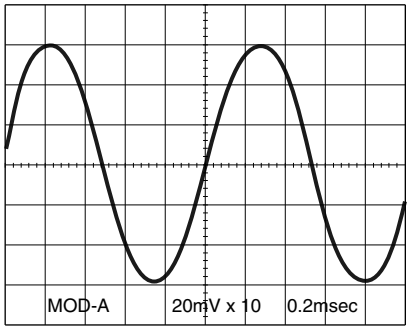
WF5



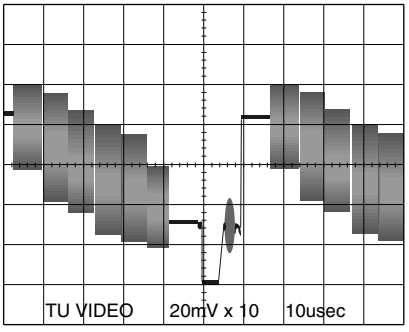
WF11



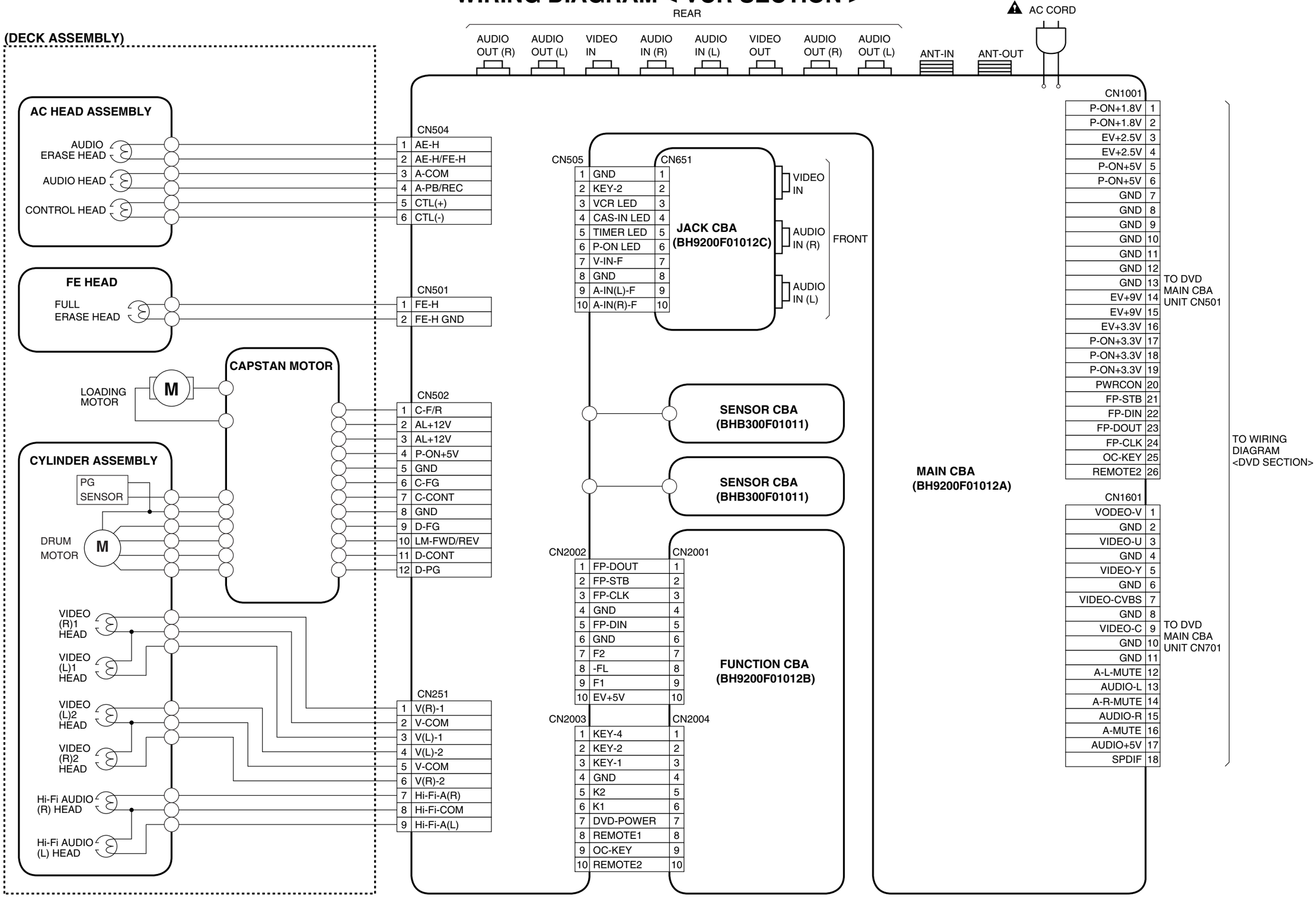
WF8



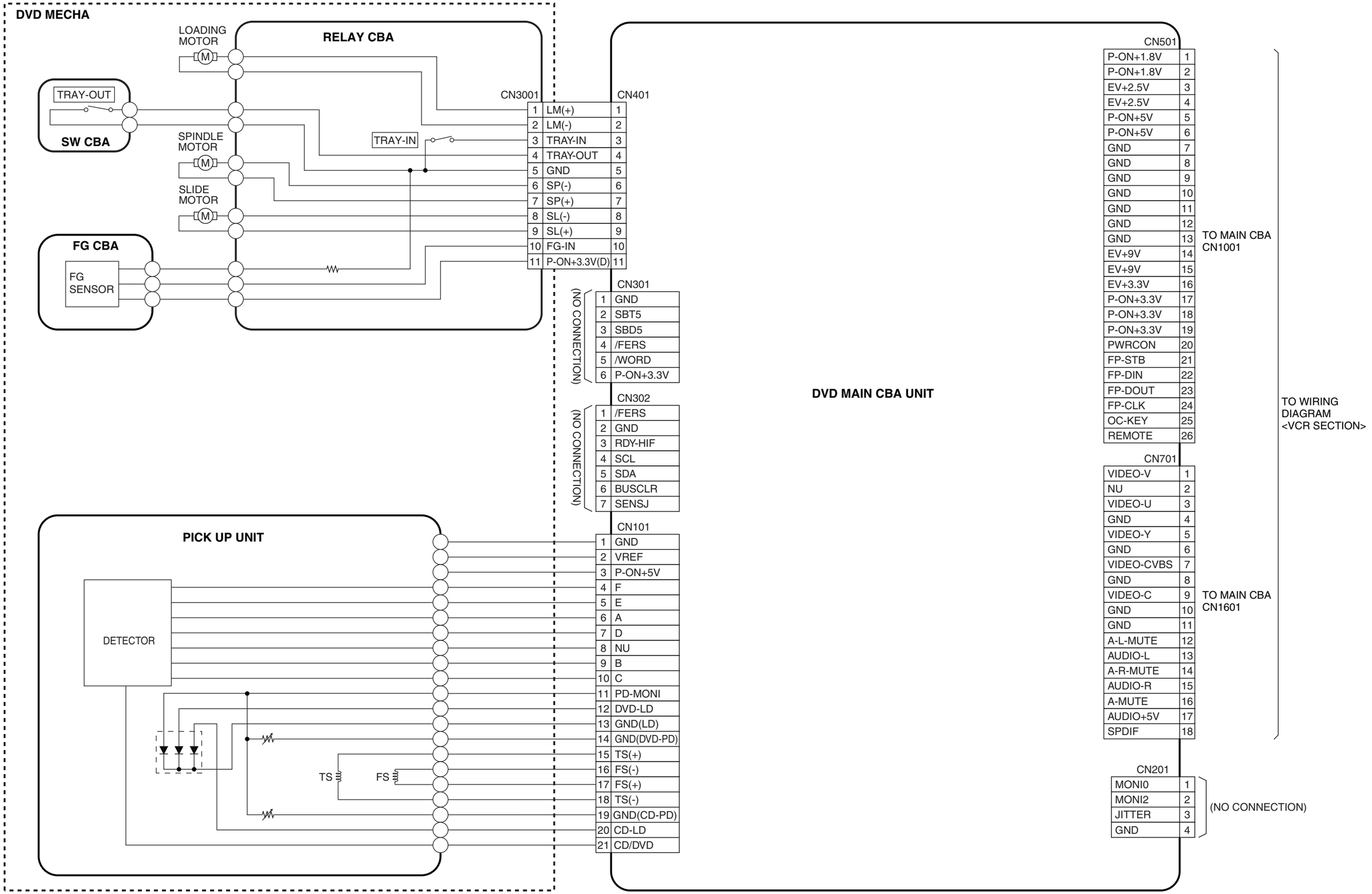
WF14



WIRING DIAGRAM < VCR SECTION >



WIRING DIAGRAM< DVD SECTION>



SYSTEM CONTROL TIMING CHARTS

[VCR Section]

Mode SW : LD-SW

LD-SW Position detection A/D Input voltage Limit (Calculated voltage)	Symbol
3.76V~4.50V (4.12V)	EJ
4.51V~5.00V (5.00V)	CL
0.00V~0.25V (0.00V)	SB
1.06V~1.50V (1.21V)	TL
0.66V~1.05V (0.91V)	FB
1.99V~2.60V (2.17V)	SF
1.51V~1.98V (1.80V)	AU
3.20V~3.75V (3.40V)	AL
0.26V~0.65V (0.44V)	SS
4.51V~5.00V (5.00V)	GC
2.61V~3.19V (2.97V)	RS

Note :

EJ ⟶ RS: Loading FWD (LM-FWD “H”, LM-REV “L”)
RS ⟶ EJ: Loading REV (LM-FWD “L”, LM-REV “H”)
Stop (A) = Loading
Stop (B) = Unloading

Note :

Symbol	Loading Status
EJ	Eject
CL	Eject ~ REW Reel
SB	REW Reel ~ Stop(B)
TL	Stop(B) ~ Brake Cancel
FB	Brake Cancel
SF	~ Stop(A)
AU	Stop(A) ~ Play / REC
AL	Play / REC ~ Still / Slow
SS	Still / Slow ~ Capstan Reversal
GC	Capstan Reversal ~ RS (REW Search)
RS	RS (REW Search)

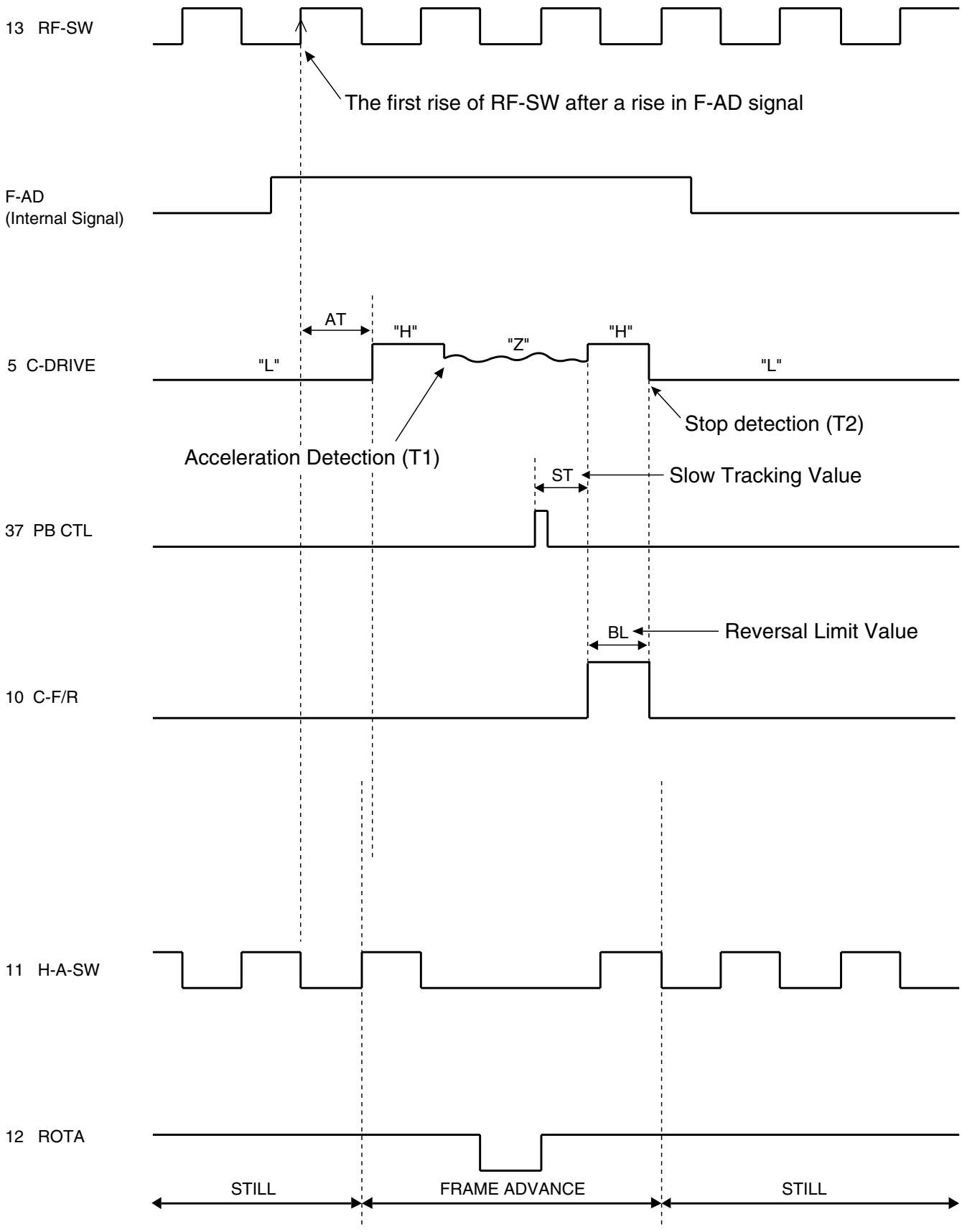

13 RF-SW
The first rise of RF-SW after a rise in F-AD signal
F-AD
(Internal Signal)
AT
"H"
"Z"
"H"
5 C-DRIVE
"L"
"L"
Stop detection (T2)
Acceleration Detection (T1)
ST
Slow Tracking Value
37 PB CTL
BL
Reversal Limit Value
10 C-F/R
11 H-A-SW
12 ROTA
STILL
FRAME ADVANCE
STILL

Fig. 1

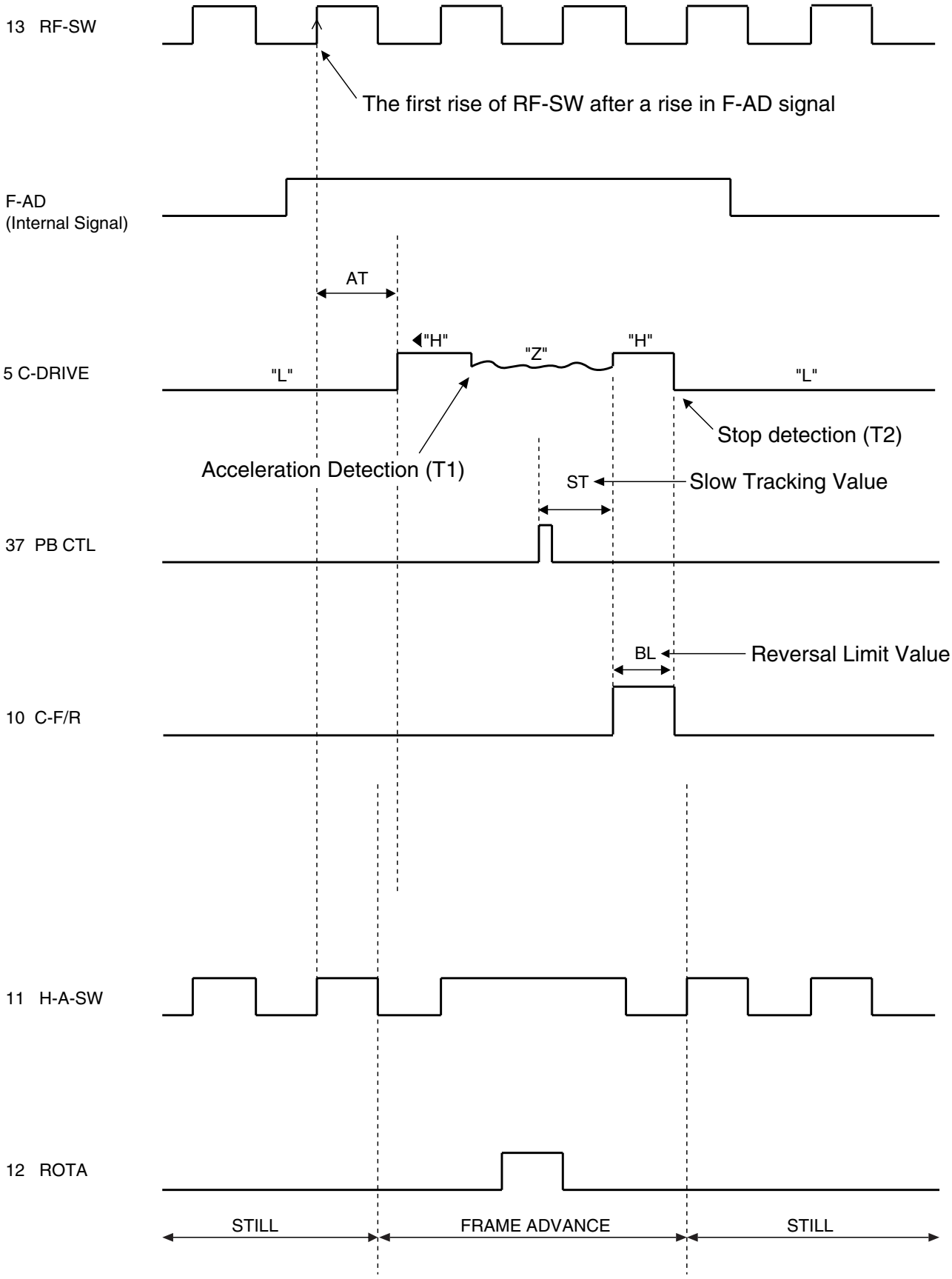

13 RF-SW
The first rise of RF-SW after a rise in F-AD signal
F-AD
(Internal Signal)
AT
"H"
"Z"
"H"
5 C-DRIVE
"L"
"L"
Stop detection (T2)
Acceleration Detection (T1)
ST
Slow Tracking Value
37 PB CTL
BL
Reversal Limit Value
10 C-F/R
11 H-A-SW
12 ROTA
STILL
FRAME ADVANCE
STILL

Fig. 2

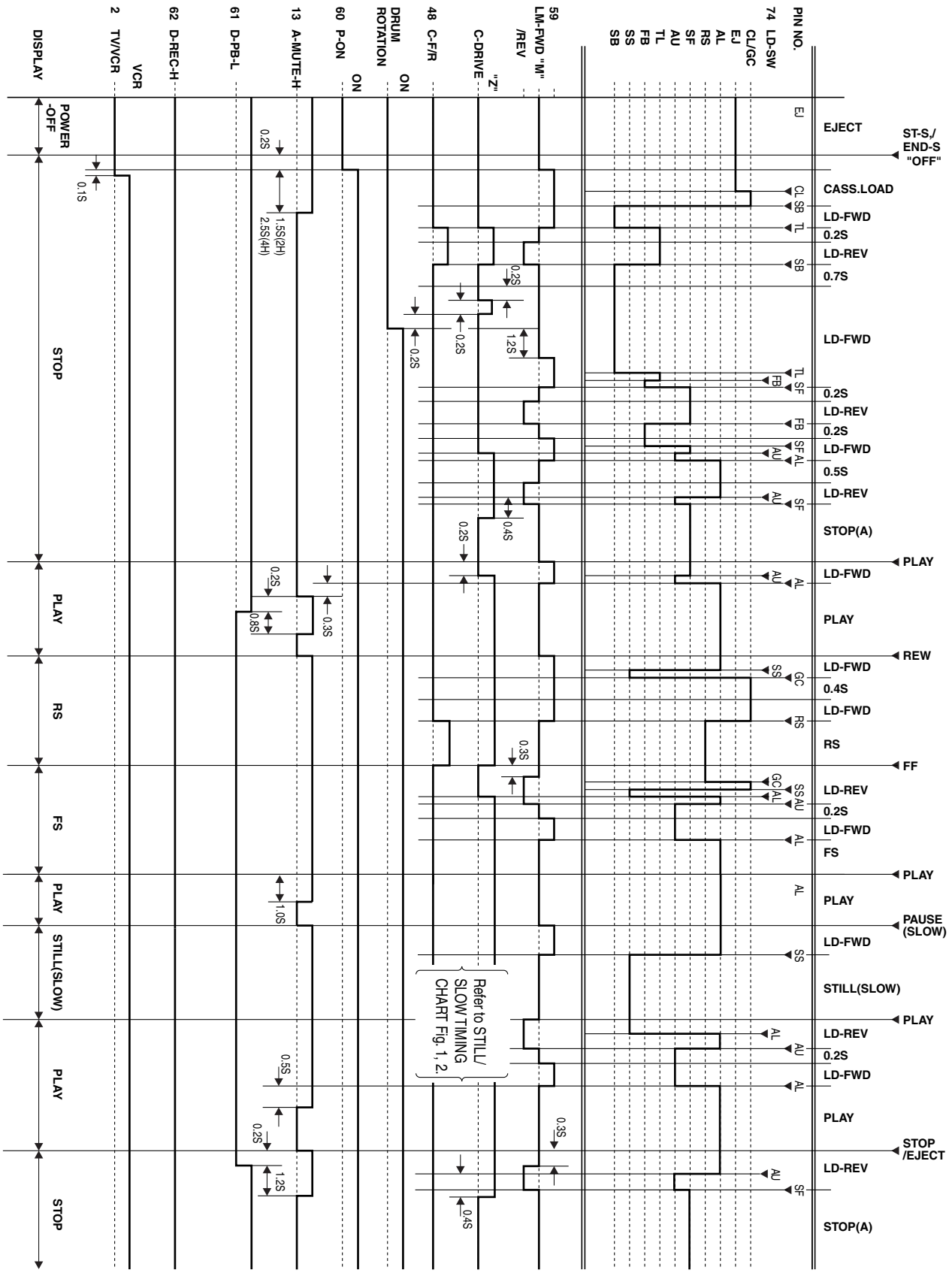

1. EJECT (POWER OFF) -> CASSETTE IN (POWER ON) -> STOP(B) -> STOP(A) -> PLAY -> RS -> FS -> PLAY -> STILL -> PLAY -> STOP(A)
PIN NO.
74 LD-SW
CL/GC
EJ
AL
RS
SF
AU
TL
FB
SS
SB
59 LM-FWD "M" /REV
C-DRIVE "Z"
48 C-F/R
DRUM ROTATION
60 P-ON
13 A-MUTE-H
61 D-PB-L
62 D-REC-H
VCR
2 TV/VCR
DISPLAY
POWER -OFF
EJECT
ST-S,/ END-S "OFF"
CASS.LOAD
LD-FWD
0.2S
LD-REV
0.7S
LD-FWD
0.2S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
PLAY
LD-FWD
PLAY
REW
LD-FWD
0.4S
LD-FWD
RS
FF
LD-REV
0.2S
LD-FWD
FS
PLAY
PLAY
PAUSE (SLOW)
LD-FWD
STILL(SLOW)
PLAY
LD-REV
0.2S
LD-FWD
PLAY
STOP /EJECT
LD-REV
STOP(A)
Refer to STILL/ SLOW TIMING CHART Fig. 1, 2.
0.1S
0.2S
1.5S(2H)
2.5S(4H)
0.2S
1.2S
0.2S
0.2S
0.4S
0.25S
0.2S
0.8S
0.3S
0.3S
1.0S
0.5S
0.2S
1.2S
0.3S
0.4S
STOP
PLAY
RS
FS
PLAY
STILL(SLOW)
PLAY
STOP

Fig. 3

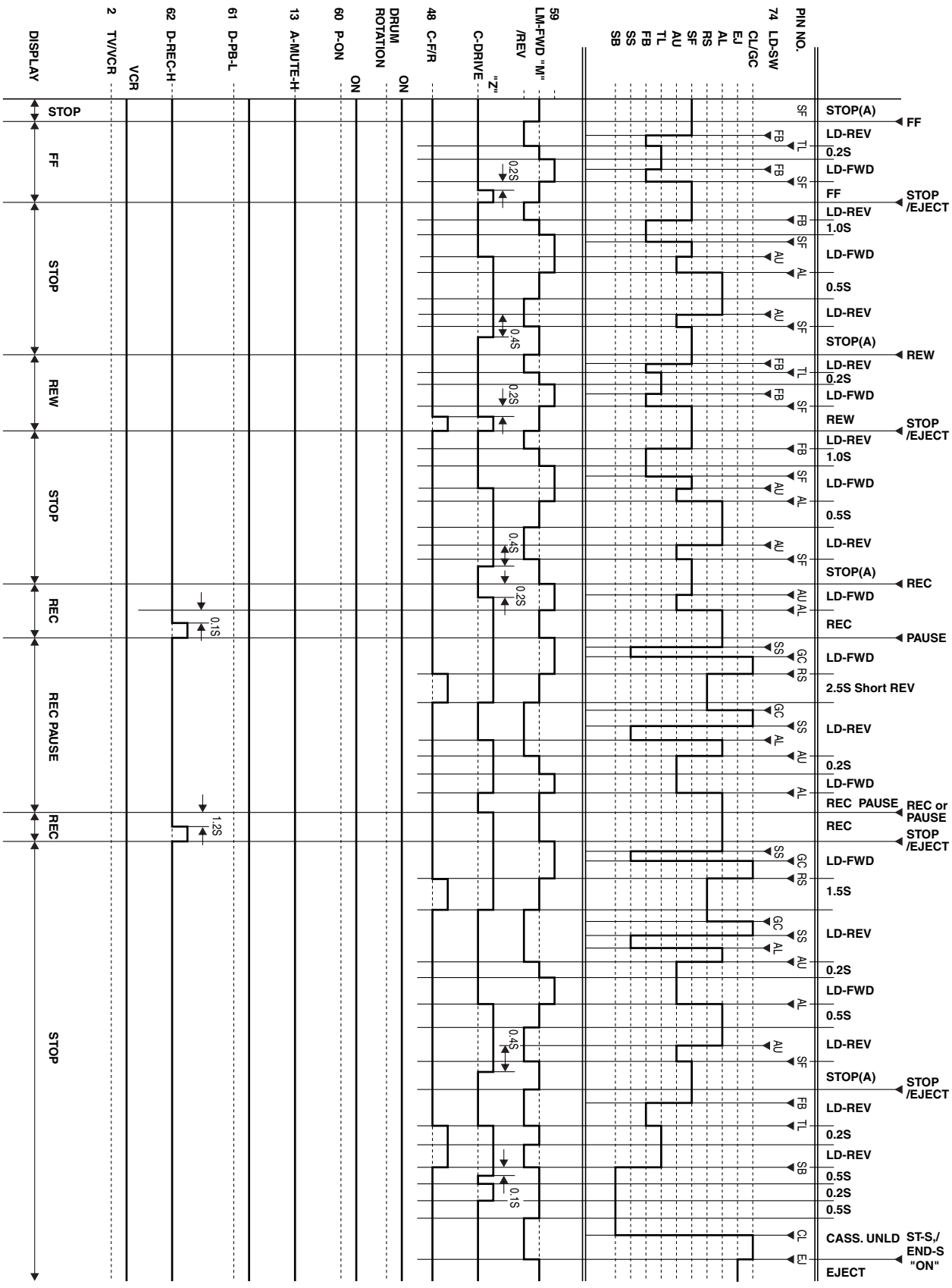
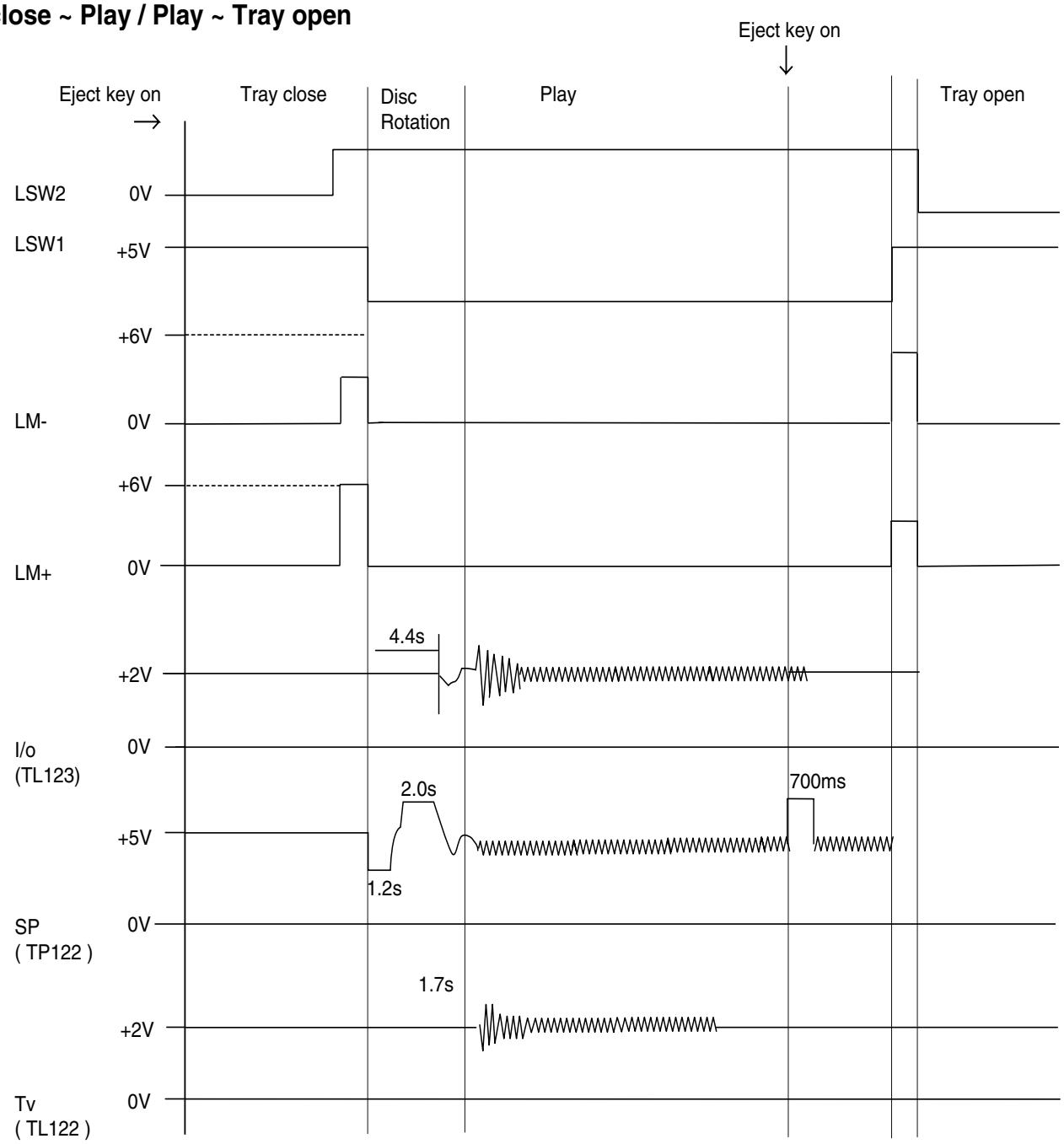

2. STOP(A) -> FF -> STOP(A) -> REW -> STOP(A) -> REC -> PAUSE -> PAUSE or REC -> STOP(A) -> EJECT
DISPLAY
2 TV/VCR
VCR
62 D-REC-H
61 D-PB-L
13 A-MUTE-H
60 P-ON
DRUM ROTATION
48 C-F/R
C-DRIVE
"Z"
59 LM-FWD "M" /REV
74 LD-SW
PIN NO.
CL/GC
EJ
AL
RS
SF
AU
TL
FB
SS
SB
STOP
FF
STOP
REW
STOP
REC
REC PAUSE
REC
STOP
STOP(A)
LD-REV
0.2S
LD-FWD
FF
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REW
LD-REV
0.2S
LD-FWD
REW
STOP /EJECT
LD-REV
1.0S
LD-FWD
0.5S
LD-REV
STOP(A)
REC
LD-FWD
REC
PAUSE
LD-FWD
2.5S Short REV
LD-REV
0.2S
LD-FWD
REC PAUSE
REC or PAUSE
REC
STOP /EJECT
LD-FWD
1.5S
LD-REV
0.2S
LD-FWD
0.5S
LD-REV
STOP(A)
STOP /EJECT
LD-REV
0.2S
LD-REV
0.5S
0.2S
0.5S
CASS. UNLD
ST-S,/ END-S "ON"
EJECT
0.2S
0.4S
0.2S
0.4S
0.2S
0.1S
1.2S
0.4S
0.1S

Fig. 4

[DVD Section]

Tray close ~ Play / Play ~ Tray open



IC PIN FUNCTION DESCRIPTIONS

[VCR Section]

IC501(SERVO / SYSTEM CONTROL IC)

"H" ≥ 4.5V, "L" ≤ 1.0V

Pins that have * in the Pin No. section on table below are not used.

Pin No.	IN/ OUT	Signal Name	Function	Active Level
1	IN	REMO-CON-IN	Remote Control Sensor	L
2	OUT	TV/VCR	RF Conv. ON/OFF Signal (TV="L"/ VCR="H")	H/L
3	-	N.U.	Not Used	-
4	OUT	DVD-POWER	DVD Power Control Signal	L
5	-	N.U.	Not Used	-
6	-	N.U.	Not Used	-
7	OUT	INSEL/ ST-SL	Input Selector Control Signal (EE/Rec)/Still/Slow (Playback)	H/Hi-z /L
8	OUT	HiFi-CS	HiFi IC Chip Select	H
9	IN/ OUT	I^2C BUS-DATA	I^2C BUS Data Input/ Output	H/L
10	OUT	I^2C BUS-CLK	I^2C BUS Clock Output	H/L
11	OUT	SERIAL-CLK	Serial IC Control Clock Output	H/L
12	OUT	SERIAL-DATA	Serial IC Control Data Output	H/L
13	OUT	A-MUTE	Audio Mute Control Signal (Mute = "H")	H
14	IN	H-A-COMP	Head Amp Coparator Signal	H/L
15	OUT	C-ROTA	Color Phase Rotary Changeover SIgnal	H/L
16	OUT	H-A-SW	Video Head Amp Switching Pulse	H/L
17	OUT	RF-SW	Video Head Switching Pulse	H/L
18	OUT	HiFi-H-SW	HiFi Audio Head Switching Pulse	H/L
19	OUT	REC-CTL (+)	Record Control Signal (+)	H/L
20	OUT	REC-CTL (-)	Record Control Signal (-)	H/L
21	IN	C-SYNC	Composite Synchronized Pulse	PULSE
22	-	GND	GND	-
23	-	N.U.	Not Used	-
24	-	OSDVss	OSDVss	-
25	IN	REC-SW	Recoding Safety SW Detect (With Record tab="L"/ With out Record tab="H")	H/L
26	IN	C-VIDEO-IN	Composite Video Signal Input (Slicer)	-
27	IN	VHOLD	Condenser Connected Terminal (Slicer)	-
28	-	HLF	LPF Connected Terminal (Slicer)	-
29	-	GND	GND	-
30	OUT	OSD- BB-OUT	Composite Video Signal Output (Blue Back)	-
31	OUT	OSD-CHARA-OUT	Character Output (Superimposed)	-
32	-	OSDVcc	OSDVcc	-
33	OUT	D-V SYNC	Dummy V-sync Output	H/Hi-z
34	IN	RESET	System Reset Signal (Reset="L")	L
35	IN	OSCIN	Clock Input for letter size	-
36	OUT	OSCOUT	Clock Output for letter size	-
37	-	Vcc	Vcc	-
38	IN	X-IN	Main Clock Input 14.31818 MHz	-
39	OUT	X-OUT	Main Clock Output	-
40	-	Vss	Vss(GND)	-
41	IN	XC-IN	Sub Clock 32 kHz	-
42	OUT	XC-OUT	Sub Clock 32 kHz	-
43	IN	CLKSEL	Clock Select (GND)	L
44	-	N.U.	Not Used	-
45	OUT	SP/LP/ SLP	Top Speed Select Siganl (SP="L"/ LP="Z"/SLP="H")	H/Z/L
46	-	N.U.	Not Used	-
47	OUT	TRICK/C-G/APC	Special Playback/ Copy Guard/APC Control Signal	H/Z/L
48	OUT	C-F/R	Capstan Motor FWD/ REV Control Signal (FWD="L"/REV="H")	H/L
49	IN	T-REEL	Take Up Reel Rotation Signal	PULSE
50	-	N.U.	Not Used	-
51	IN	C-FG	Capstan Motor Rotation Detection Pulse	PULSE

Pin No.	IN/ OUT	Signal Name	Function	Active Level
52	IN	D-FG	Drum Motor Rotation Detection Pulse	PULSE
53	IN	D-PG	Drum Motor Pulse Generator	PULSE
54	IN	PB-CTL	Playback Control Signal	PULSE
55	OUT	C-CONT	Capstan Motor Control Signal	PWM
56	OUT	D-CONT	Drum Motor Control Signal	PWM
57	-	N.U.	Not Used	-
58	-	N.U.	Not Used	-
59	OUT	LM-FWD/ REV	Loading Motor FWD/ REV Outpit	H/Z/L
60	OUT	P-ON-L	Power On Signal to Low	L
61	OUT	D-PB-H	Playback Instruction Signal (Playback=”H”)	H
62	OUT	D-REC-H	Delayed Record Signal	H
63	IN	P-DOWN -L	Power Voltage Down Detector Signal	L
64	-	POW-MONITOR	DVD Power Monitor Signal (P-off="H", P-on="L")	H/L
65	IN	Hi-Fi/ NOR-IN	Audio Mode Input HiFi=”L”/ Normal=”H”	H/L
66	OUT	BLUE BACK-ON	Blueback Control Signal	H
67	IN	ST/SAP-IN	Tuner Stereo/Sap Detector Siganl Input	A/D
68	IN	END-S	Tape End Position Detect Signal	A/D
69	IN	AFC	Automatic Frequency Control Signal	A/D
70	IN	V-ENV	Video Envelope Comparator Signal	A/D
71	IN	PG-DELAY	Video Head Switching Pulse Signal Adjusted Voltage	A/D
72	IN	KEY-1	A/D Key Data Signal 1	A/D
73	IN	KEY-2	A/D Key Data Signal 2	A/D
74	IN	LD-SW	Deck Mode Position Detector Signal	A/D
75	IN	ST-S	Tape Start Position Detector Signal	A/D
76	-	AVcc	A/D Converter Power Input/ Standard Voltage Input	-
77	-	FLDVCC	FLDVcc	-
78	-	FLDVP	GND	-
79	-	N.U.	Not Used	-
80	-	N.U.	Not Used	-
81	-	N.U.	Not Used	-

Pin No.	IN/ OUT	Signal Name	Function	Active Level
82	OUT	REC LED	“REC” LED Signal Output	H/L
83	OUT	REC LED	“REC” LED Signal Output	H/L
84	OUT	TIMER LED	“TIMER” LED Signal Output	H/L
85	OUT	TIMER LED	“TIMER” LED Signal Output	H/L
86	-	N.U.	Not Used	-
87	OUT	CAS- IN LED	“CASSETTE” LED Signal Output	H/L
88	OUT	CAS- IN LED	“CASSETTE” LED Signal Output	H/L
89	OUT	VCR/TV LED	VCR/TV Mode LED Indicate	H/L
90	OUT	VCR/TV LED	VCR/TV Mode LED Indicate	H/L
91	OUT	DVD-L	VCR Mode LED Indicator	H
92	OUT	DVD-L	VCR Mode LED Indicator	H
93	OUT	DVD-H	Output Switching Signal DVD Mode LED Indicator	H
94	OUT	DVD-H	Output Switching Signal DVD Mode LED Indicator	H
95	-	N.U.	Not Used	-
96	-	N.U.	Not Used	-
97	-	N.U.	Not Used	-
98	-	N.U.	Not Used	-
99	-	N.U.	Not Used	-
100	OUT	OUTPUT SELECT	Output Select	H/L

Notes:

Abbreviation for Active Level:

PWM -----Pulse Wide Modulation

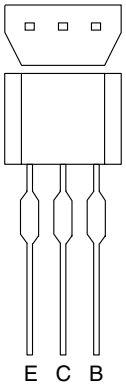
A/D--------Analog - Digital Converter

[DVD Section]

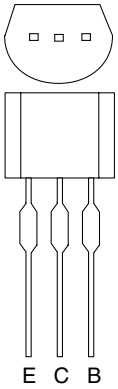
IC2001 [PT6315-S / PT6315-S]

Pin No.	In/Out	Signal Name	Name Function
1	In	CLK	Clock Input
2	In	STB	Serial Interface Strobe
3	In	K1	Key Data 1 Input
4	In	K2	Key Data 2 Input
5	-	VSS	GND
6	-	VDD	Power Supply
7	Out	a / KEY-1	Segment Output / Key Souce-1
8	Out	b / Key-2	Segment Output / Key Souce-2
9	Out	c / Key-3	Segment Output / Key Souce-3
10	Out	d / Key-4	Segment Output/ Key Souce-4
11	Out	e	Segment Output
12	In	f	
13	In	g	
14	Out	h	
15	-	VEE	Pull Down Level
16	Out	i	Segment Output
17	Out	7G	Grid Output
18		6G	
19		5G	
20		4G	
21		3G	
22		2G	
23		1G	
24	-	VDD	Power Supply
25	-	VSS	GND
26	In	OSC	Oscillator Input
27	Out	DOUT	Serial Data Output
28	In	DIN	Serial Data Input

LEAD IDENTIFICATIONS

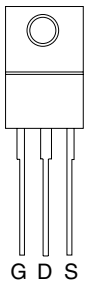


BN1F4M-T
BA1F4M-T
KTA1266(GR)
KTC3193(Y)
KTC3199(Y,GR,BL)
2SC2785(J.H.F.K)
2SA1015-GR(TPE2)
KTC3198(Y,GR)
KRC103M
KRA103M
2SA966(Y)
2SC2236-Y-TPE6,C



2SC1815-BL(TPE2)
2SC1815-Y(TPE2)
2SC1815-GR(TPE2)
2SC3331(T,U)
2SC2120-Y(TPE2)
KTC3203(Y)
KTA2273(Y)
KRC110M-AT
BA1L3Z-T
KTC3205 (Y)
BN1L3Z(P)
KRA110M
KTA1273(Y)

2SK2662
KIA78R33PI
PQ3RD13(1A)



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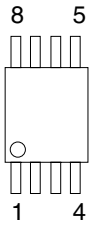
KIA4558P



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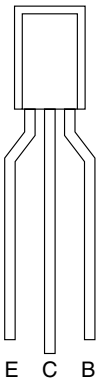
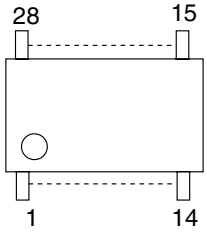


PT6315-S
PT6315-S(-TP)



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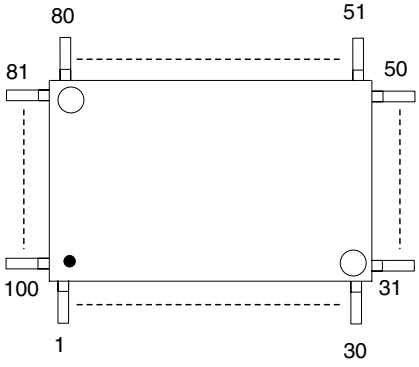
LA71091M



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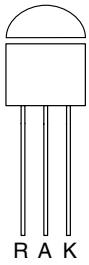

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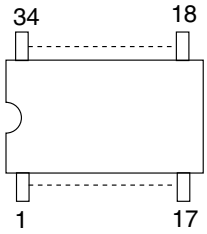

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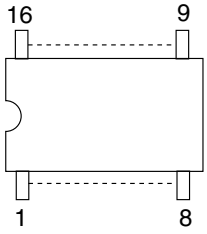

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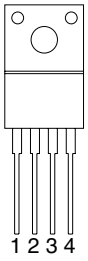

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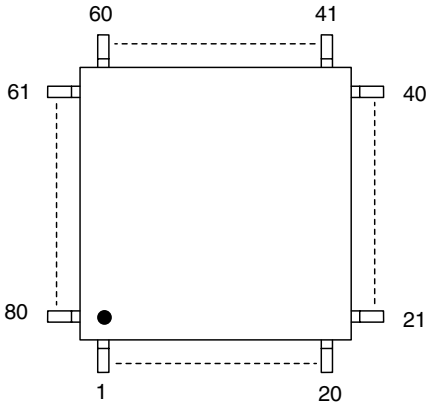

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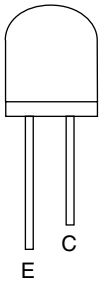
PT204-6B-12



Note:
A: Anode
K: Cathode
E: Emitter
C: Collector
B: Base
R: Reference
S: Source
G: Gate
D: Drain

DECK MECHANISM SECTION

VIDEO CASSETTE RECORDER

EWD2202

Sec. 2: Deck Mechanism Section

- **Standard Maintenance**
- **Alignment for Mechanism**
- **Disassembly/Assembly of Mechanism**
- **Alignment Procedures of Mechanism**

TABLE OF CONTENTS

Standard Maintenance 2-1-1
Service Fixtures and Tools 2-2-1
Mechanical Alignment Procedures 2-3-1
Disassembly / Assembly Procedures of Deck Mechanism 2-4-1
Alignment Procedures of Mechanism 2-4-9

STANDARD MAINTENANCE

Service Schedule of Components

H: Hours ❍: Check ●: Change

Deck		Periodic Service Schedule			
Ref.No.	**Part Name**	**1,000 H**	**2,000 H**	**3,000 H**	**4,000 H**
B2	Cylinder Assembly	❍	●	❍	●
B3	Loading Motor Assembly			●	
B8	Pulley Assembly		●		●
B27	Tension Lever Sub Assembly		●		●
B31	AC Head Assembly			●	
B573,B574	Reel S, Reel T			●	
B37	Capstan Motor		●		●
B52	Cap Belt		●		●
*B73	FE Head			●	
B133	Idler Assembly		●		●
B410	Pinch Arm (A) Assembly		●		●
B414	M Brake S Assembly		●		●
B416	M Brake T Assembly		●		●
B525	LDG Belt		●		●

Notes:

1. Clean all parts for the tape transport (Upper Drum with Video Head / Pinch Roller / Audio Control Head / Full Erase Head) using 90% Isopropyl Alcohol.
2. After cleaning the parts, do all DECK ADJUSTMENTS.
3. For the reference numbers listed above, refer to Deck Exploded Views.

* B73 ------ Recording Model only

Cleaning

Cleaning of Video Head

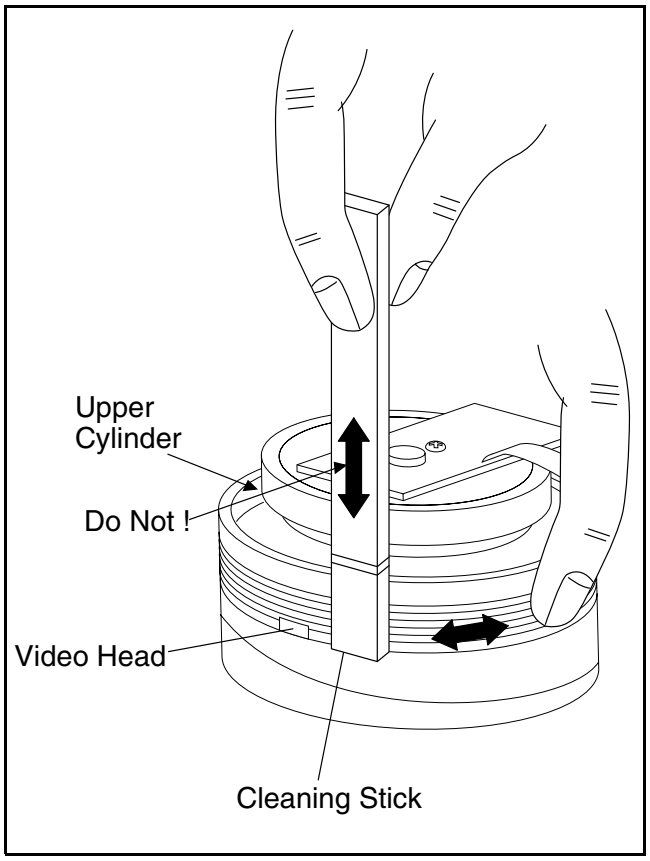
Clean the head with a head cleaning stick or chamois cloth.

Procedure

1. Remove the top cabinet.
2. Put on a glove (thin type) to avoid touching the upper and lower drum with your bare hand.
3. Put a few drops of 90% Isopropyl alcohol on the head cleaning stick or on the chamois cloth and, by slightly pressing it against the head tip, turn the upper drum to the right and to the left.

Notes:

1. The video head surface is made of very hard material, but since it is very thin, avoid cleaning it vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit.
3. Do not reuse a stained head cleaning stick or a stained chamois cloth.



Cleaning of Audio Control Head

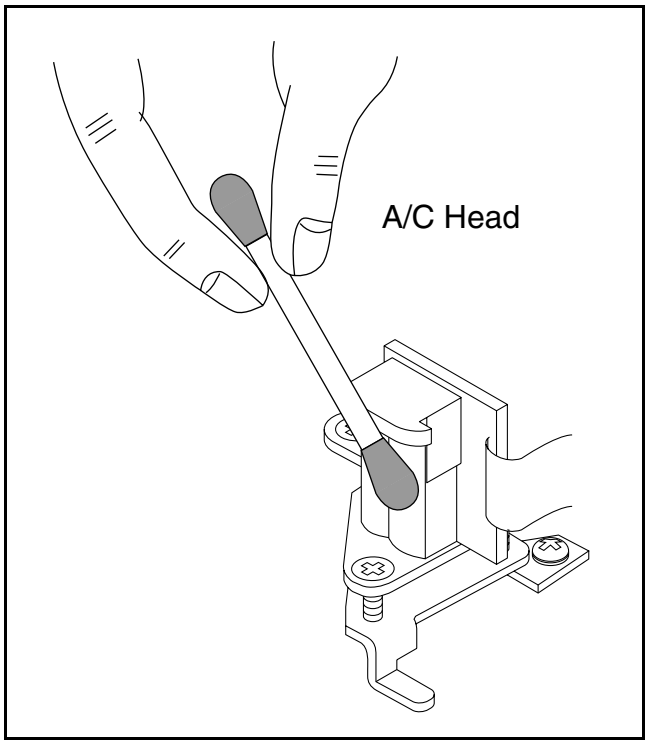
Clean the head with a cotton swab.

Procedure

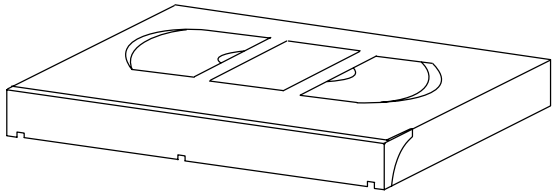
1. Remove the top cabinet.
2. Dip the cotton swab in 90% isopropyl alcohol and clean the audio control head. Be careful not to damage the upper drum and other tape running parts.

Notes:

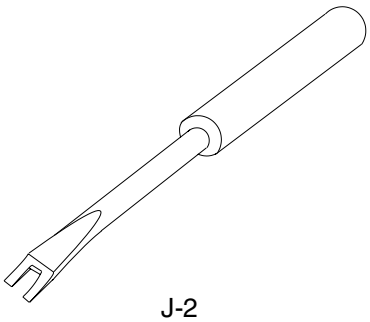
1. Avoid cleaning the audio control head vertically.
2. Wait for the cleaned part to dry thoroughly before operating the unit or damage may occur.



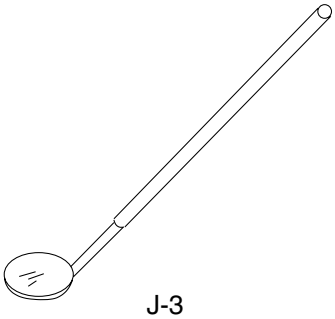
SERVICE FIXTURE AND TOOLS



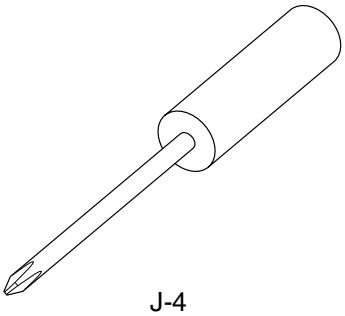
J-1-1, J-1-2



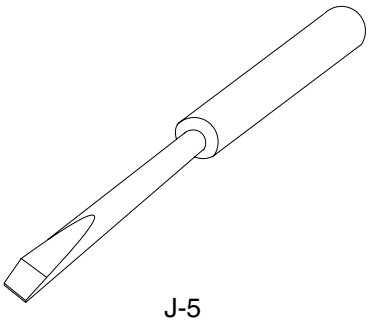
J-2



J-3



J-4



J-5

Ref. No.	Name	Part No.	Adjustment
J-1-1	Alignment Tape	FL8A	Head Adjustment of Audio Control Head
J-1-2	Alignment Tape	FL8N (2Head only) FL8NW (4Head only)	Azimuth and X Value Adjustment of Audio Control Head / Adjustment of Envelope Waveform
J-2	Guide Roller Adj.Screwdriver	Available Locally	Guide Roller
J-3	Mirror	Available Locally	Tape Transportation Check
J-4	Azimuth Adj.Screwdriver +	Available Locally	A/C Head Height
J-5	X Value Adj.Screwdriver -	Available Locally	X Value

MECHANICAL ALIGNMENT PROCEDURES

Explanation of alignment for the tape to correctly run starts on the next page. Refer to the information below on this page if a tape gets stuck, for example, in the mechanism due to some electrical trouble of the unit.

Service Information

A. Method for Manual Tape Loading/Unloading

To load a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Insert a cassette tape. Though the tape will not be automatically loaded, make sure that the cassette tape is all the way in at the inlet of the Cassette Holder. To confirm this, lightly push the cassette tape further in and see if the tape comes back out, by a spring motion, just as much as you have pushed in.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 for a minute or two to complete this task.

To unload a cassette tape manually:

1. Disconnect the AC plug.
2. Remove the Top Case and Front Assembly.
3. Make sure that the Moving guide preparations are in the Eject Position.
4. Turn the LDG Belt in the appropriate direction shown in Fig. M1 until the Moving guide preparations come to the Eject Position. Stop turning when the preparations begin clicking or can not be moved further. However, the tape will be left wound around the cylinder.
5. Turn the LDG Belt in the appropriate direction continuously, and the cassette tape will be ejected. Allow a minute or two to complete this task.

B. Method to place the Cassette Holder in the tape-loaded position without a cassette tape

1. Disconnect the AC Plug.
2. Remove the Top Case and Front Assembly.
3. Turn the LDG Belt in the appropriate direction shown in Fig. M1. Release the locking tabs shown in Fig. M1 and continue turning the LDG Belt until the Cassette Holder comes to the tape-loaded position. Allow a minute or two to complete this task.

Top View

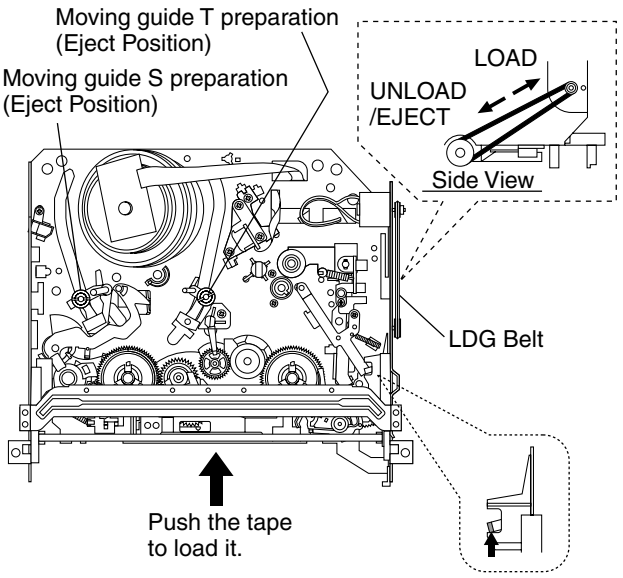


Fig. M1

Bottom View

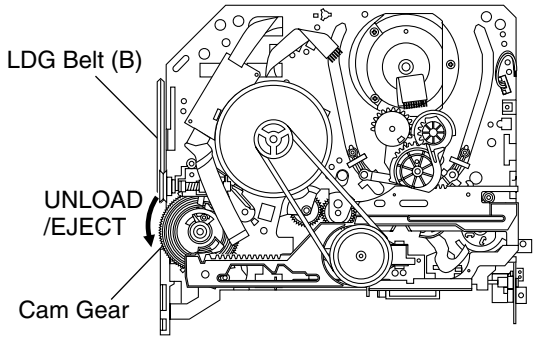


Fig. M2

1.Tape Interchangeability Alignment

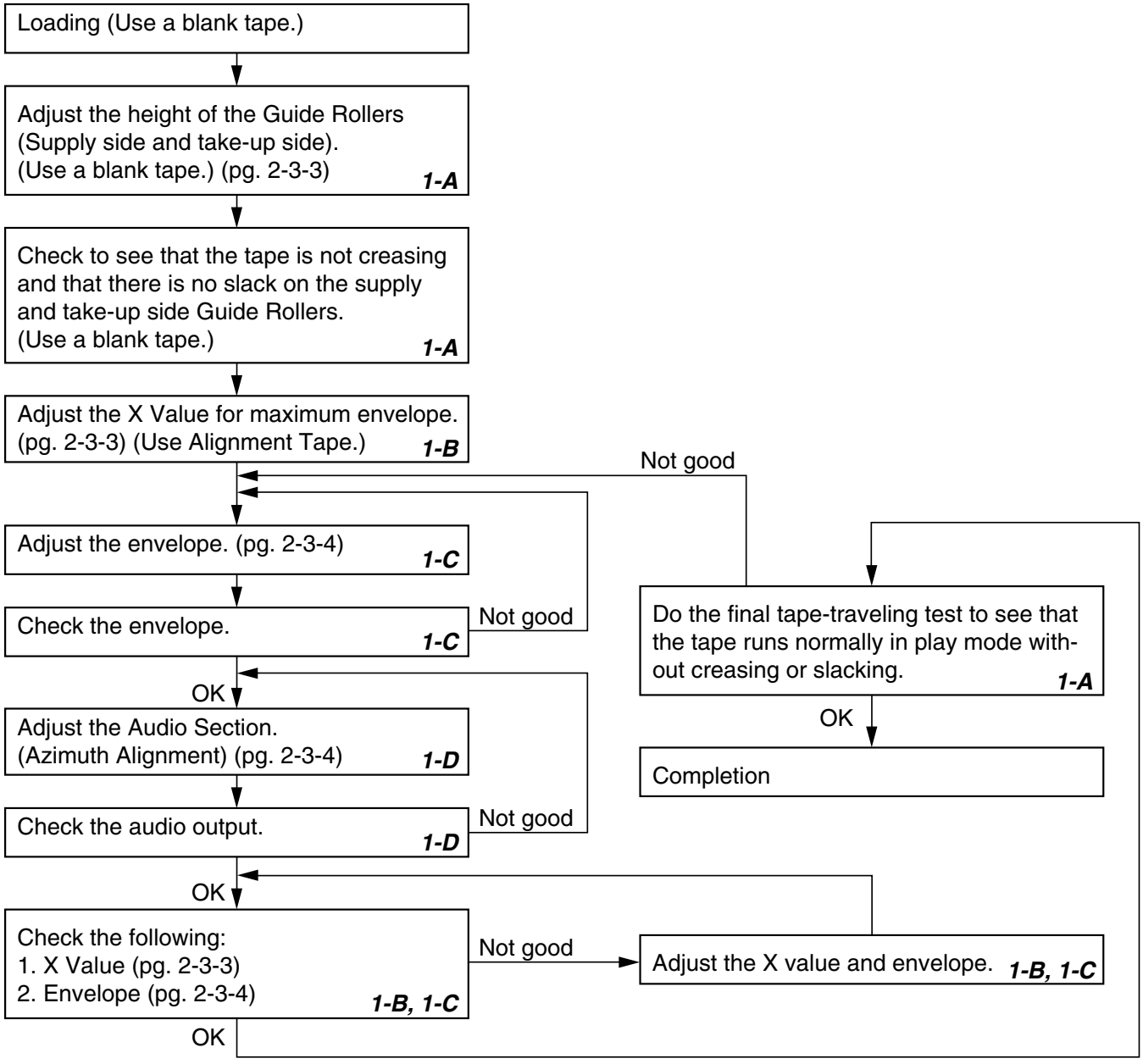
Note:
To do these alignment procedures, make sure that the Tracking Control Circuit is set to the center position every time a tape is loaded or unloaded. (Refer to page 2-3-4, procedure 1-C, step 2.)

Equipment required:

Dual Trace Oscilloscope
VHS Alignment Tape (FL8NW)
Guide Roller Adj. Screwdriver
X-Value Adj. Screwdriver

Note: Before starting this Mechanical Alignment, do all Electrical Adjustment procedures.

Flowchart of Alignment for tape traveling


Loading (Use a blank tape.)
Adjust the height of the Guide Rollers (Supply side and take-up side). (Use a blank tape.) (pg. 2-3-3) 1-A
Check to see that the tape is not creasing and that there is no slack on the supply and take-up side Guide Rollers. (Use a blank tape.) 1-A
Adjust the X Value for maximum envelope. (pg. 2-3-3) (Use Alignment Tape.) 1-B
Not good
Adjust the envelope. (pg. 2-3-4) 1-C
Check the envelope. 1-C
Not good
OK
Adjust the Audio Section. (Azimuth Alignment) (pg. 2-3-4) 1-D
Check the audio output. 1-D
Not good
OK
Check the following:
1. X Value (pg. 2-3-3)
2. Envelope (pg. 2-3-4) 1-B, 1-C
Not good
Adjust the X value and envelope. 1-B, 1-C
OK
Do the final tape-traveling test to see that the tape runs normally in play mode without creasing or slacking. 1-A
OK
Completion

1-A. Preliminary/Final Checking and Alignment of Tape Path

Purpose:

To make sure that the tape path is well stabilized.

Symptom of Misalignment:

If the tape path is unstable, the tape will be damaged.

Note: Do not use an Alignment Tape for this procedure. If the unit is not correctly aligned, the tape may be damaged.

1. Play back a blank cassette tape and check to see that the tape runs without creasing at Guide Rollers [2] and [3], and at points A and B on the lead surface. (Refer to Fig M3 and M4.)
2. If creasing is apparent, align the height of the guide rollers by turning the top of Guide Rollers [2] and [3] with a Guide Roller Adj. Screwdriver. (Refer to Fig. M3 and M5.)

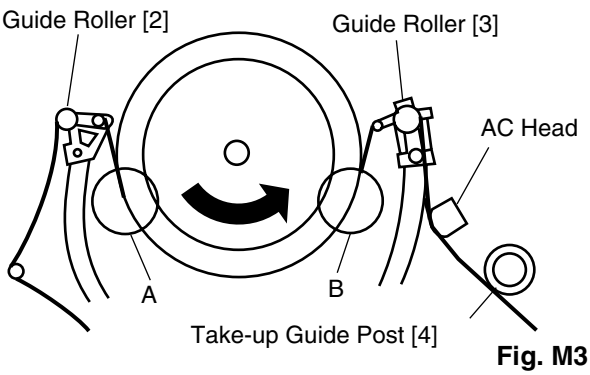


Fig. M3

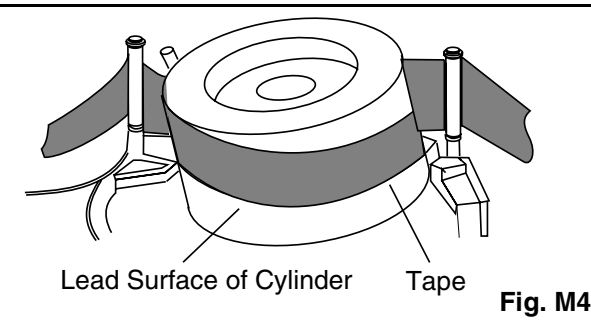


Fig. M4

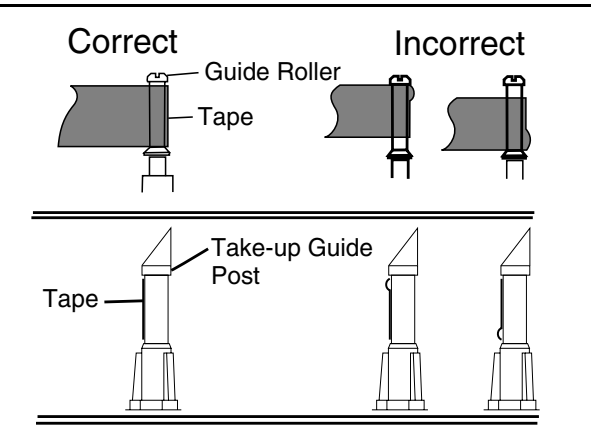


Fig. M5

3. Check to see that the tape runs without creasing at Take-up Guide Post [4] or without snaking between Guide Roller [3] and AC Head. (Fig. M3 and M5)
4. If creasing or snaking is apparent, adjust the Tilt Adj. Screw of the AC Head. (Fig. M6)

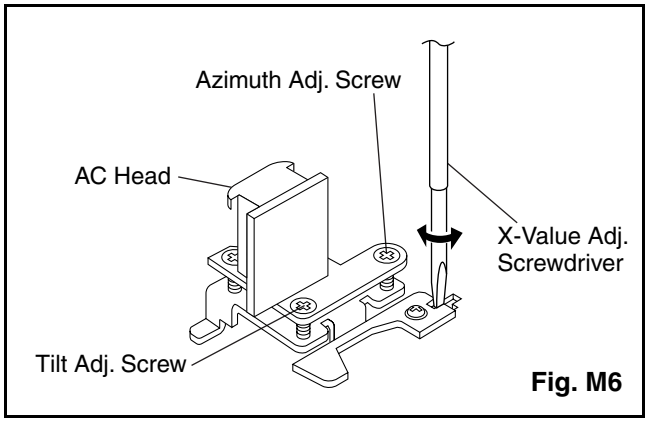


Fig. M6

1-B. X Value Alignment

Purpose:

To align the Horizontal Position of the Audio/Control/Erase Head.

Symptom of Misalignment:

If the Horizontal Position of the Audio/Control/Erase Head is not properly aligned, maximum envelope cannot be obtained at the Neutral position of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) and TP303 (CTL) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Play back the Gray Scale of the Alignment Tape (FL8NW) and confirm that the PB FM signal is present.
3. Set the Tracking Control Circuit to the center position by pressing CH UP button then " PLAY " button on the unit. (Refer to note on bottom of page 2-3-4.)
4. Use the X-Value Adj. Screwdriver so that the PB FM signal at TP301 (C-PB) is maximum. (Fig. M6)
5. Press CH UP button on the unit until the CTL waveform has shifted by approx. +2msec. Make sure that the envelope is simply attenuated (shrinks in height) during this process so that you will know the envelope has been at its peak.

6. Press CH DOWN button on the unit until the CTL waveform has shifted from its original position (not the position achieved in step 5, but the position of CTL waveform in step 4) by approximately -2msec. Make sure that the envelope is simply attenuated (shrinks in height) once CTL waveform passes its original position and is further brought in the minus direction.
7. Set the Tracking Control Circuit to the center position by pressing CH UP button and then " PLAY " button.

1-C. Checking/Adjustment of Envelope Waveform

Purpose:

To achieve a satisfactory picture and precise tracking.

Symptom of Misalignment:

If the envelope output is poor, noise will appear in the picture. The tracking will then lose precision and the playback picture will be distorted by any slight variation of the Tracking Control Circuit.

1. Connect the oscilloscope to TP301 (C-PB) on the Main CBA. Use TP302 (RF-SW) as a trigger.
2. Play back the Gray Scale on the Alignment Tape (FL8NW). Set the Tracking Control Circuit to the center position by pressing CH UP button and then " PLAY " button on the unit. Adjust the height of Guide Rollers [2] and [3] (Fig. M3, Page 2-3-3) watching the oscilloscope display so that the envelope becomes as flat as possible. To do this adjustment, turn the top of the Guide Roller with the Guide Roller Adj. Screwdriver.
3. If the envelope is as shown in Fig. M7, adjust the height of Guide Roller [2] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
4. If the envelope is as shown in Fig. M8, adjust the height of Guide Roller [3] (Refer to Fig. M3) so that the waveform looks like the one shown in Fig. M9.
5. When Guide Rollers [2] and [3] (Refer to Fig.M3) are aligned properly, there is no envelope drop either at the beginning or end of track as shown in Fig. M9.

Note: Upon completion of the adjustment of Guide Rollers [2] and [3] (Refer to Fig. M3), check the X Value by pushing the CH UP or DOWN buttons alternately, to check the symmetry of the envelope. Check the number of pushes to ensure center position. The number of pushes CH UP button to achieve 1/2 level of envelope should match the number of pushes CH DOWN button from center. If required, redo the "X Value Alignment."

1-D. Azimuth Alignment of Audio/Control/ Erase Head

Purpose:

To correct the Azimuth alignment so that the Audio/ Control/Erase Head meets tape tracks properly.

Symptom of Misalignment:

If the position of the Audio/Control/Erase Head is not properly aligned, the Audio S/N Ratio or Frequency Response will be poor.

1. Connect the oscilloscope to the audio output jack on the rear side of the deck.
2. Play back the alignment tape (FL8NW) and confirm that the audio signal output level is 8kHz.
3. Adjust Azimuth Adj. Screw so that the output level on the AC Voltmeter or the waveform on the oscilloscope is at maximum. (Fig. M6)

Dropping envelope level at the beginning of track.

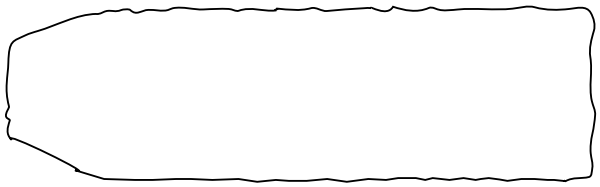


Fig. M7

Dropping envelope level at the end of track.

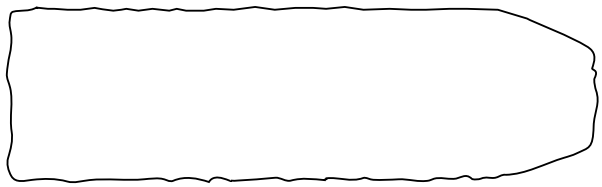


Fig. M8

Envelope is adjusted properly. (No envelope drop)

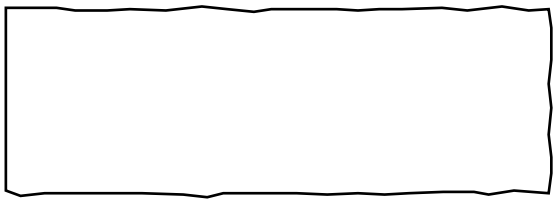


Fig. M9

DISASSEMBLY/ASSEMBLY PROCEDURES OF DECK MECHANISM

Before following the procedures described below, be sure to remove the deck assembly from the cabinet. (Refer to CABINET DISASSEMBLY INSTRUCTIONS on page 1-7-1.)
All the following procedures, including those for adjustment and replacement of parts, should be done in Eject mode; see the positions of [41] and [42] in Fig.DM1 on page 2-4-3. When reassembling, follow the steps in reverse order.

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[1]	[1]	Guide Holder A	T	DM3	2(S-1)	
[2]	[1]	Cassette Holder Assembly	T	DM4		
[3]	[2]	Slider L	T	DM5	(S-2)	
[4]	[2]	Slider R	T	DM5	(S-3)	
[5]	[4]	Lock Lever	T	DM5	(S-4),*(P-1)	
[6]	[2]	C Plate	T	DM5		
[7]	[7]	Cylinder Assembly	T	DM1,DM6	Desolder, 3(S-5)	
[8]	[8]	Loading Motor Assembly	T	DM1,DM7	Desolder, LDG Belt, 2(S-6)	
[9]	[9]	AC Head Assembly	T	DM1,DM7	(S-7)	
[10]	[2]	Tape Guide Assembly	T	DM1,DM8	*(P-2)	
[11]	[10]	Door Opener B	T	DM1,DM8	*(L-1),*(L-2)	
[12]	[11]	Pinch Arm (B)	T	DM1,DM8	*(P-3)	
[13]	[12]	Pinch Arm (A) Assembly	T	DM1,DM8		
[14]	[14]	FE Head	T	DM1,DM9	(S-8)	
[15]	[15]	Prism	T	DM1,DM9	(S-9)	
[16]	[2]	Slider Shaft	T	DM10	(S-10),*(L-3)	
[17]	[16]	C Drive Lever L	T	DM10		
[18]	[16]	C Drive Lever R	T	DM10		
[19]	[7],[10]	Capstan Motor	B	DM2,DM11	3(S-11), Cap Belt	
[20]	[20]	Clutch Assembly	B	DM2,DM12	(C-1)	
[21]	[20]	FF Arm	B	DM2,DM12		
[22]	[22]	Cam Holder F	B	DM2,DM13	(C-2)	
[23]	[23]	Cam Gear (B)	B	DM2,DM13	(C-3),*(P-4)	
[24]	[24]	Mode Gear	B	DM2,DM14	(C-4)	
[25]	[20],[23], [24]	Mode Lever	B	DM2,DM14	(C-5), *(L-4)	
[26]	[22]	Worm Holder	B	DM2,DM14	(S-12)	
[27]	[26]	Pulley Assembly	B	DM2,DM14		
[28]	[25],[26]	Cam Gear (A)	B	DM2,DM14		
[29]	[25]	Idler Assembly	B	DM1,DM15	*(L-5)	
[30]	[25]	BT Arm	B	DM2,DM15	*(P-5)	
[31]	[25]	Loading Arm S (B) Assembly	B	DM2,DM15		(+)Refer to Alignment Sec.Pg.2-4-9
[32]	[31]	Loading Arm T (B) Assembly	B	DM2,DM15		(+)Refer to Alignment Sec.Pg.2-4-9

STEP /LOC. No.	START-ING No.	PART		REMOVAL		INSTALLATION
				Fig. No.	REMOVE/*UNHOOK/ UNLOCK/RELEASE/ UNPLUG/DESOLDER	ADJUSTMENT CONDITION
[33]	[2],[25]	M Brake T Assembly	T	DM1,DM16	*(P-6)	
[34]	[2],[25]	M Brake S Assembly	T	DM1,DM16	*(P-7)	
[35]	[34]	Tension Lever Sub Assembly	T	DM1,DM16		
[36]	[35]	T Lever Holder	T	DM1,DM16	*(L-6)	
[37]	[33]	M Gear	T	DM1,DM16	(C-6)	
[38]	[2],[15]	Sensor Gear	T	DM1,DM16	(C-7)	
[39]	[33]	Reel T	T	DM1,DM16		
[40]	[35]	Reel S	T	DM1,DM16		
[41]	[31],[35]	Moving Guide S Preparation	T	DM1,DM17		
[42]	[32]	Moving Guide T Preparation	T	DM1,DM17		
[43]	[19]	TG Post Assembly	T	DM1,DM17	*(L-7)	
[44]	[19],[28]	Rack Assembly	R	DM18		(+)Refer to Alignment Sec.Pg.2-4-10
[45]	[44]	F Door Opener	R	DM18		
[46]	[46]	Cleaner Lever Assembly	T	DM1,DM6		Type A
					*(L-8)	Type B
[47]	[46]	CL Post	T	DM1,DM6	*(L-9)	Type A
↓ (1)	↓ (2)	↓ (3)	↓ (4)	↓ (5)	↓ (6)	↓ (7)

(1): Follow steps in sequence. When reassembling, follow the steps in reverse order.
These numbers are also used as identification (location) No. of parts in the figures.

(2): Indicates the part to start disassembling with in order to disassemble the part in column (1).

(3): Name of the part

(4): Location of the part: T=Top B=Bottom R=Right L=Left

(5): Figure Number

(6): Identification of parts to be removed, unhooked, unlocked, released, unplugged, unclamped, or desoldered.
P=Spring, W=Washer, C=Cut Washer, S=Screw, *=Unhook, Unlock, Release, Unplug, or Desolder
e.g., 2(L-2) = two Locking Tabs (L-2).

(7): Adjustment Information for Installation
(+):Refer to Deck Exploded Views for lubrication.

Top View

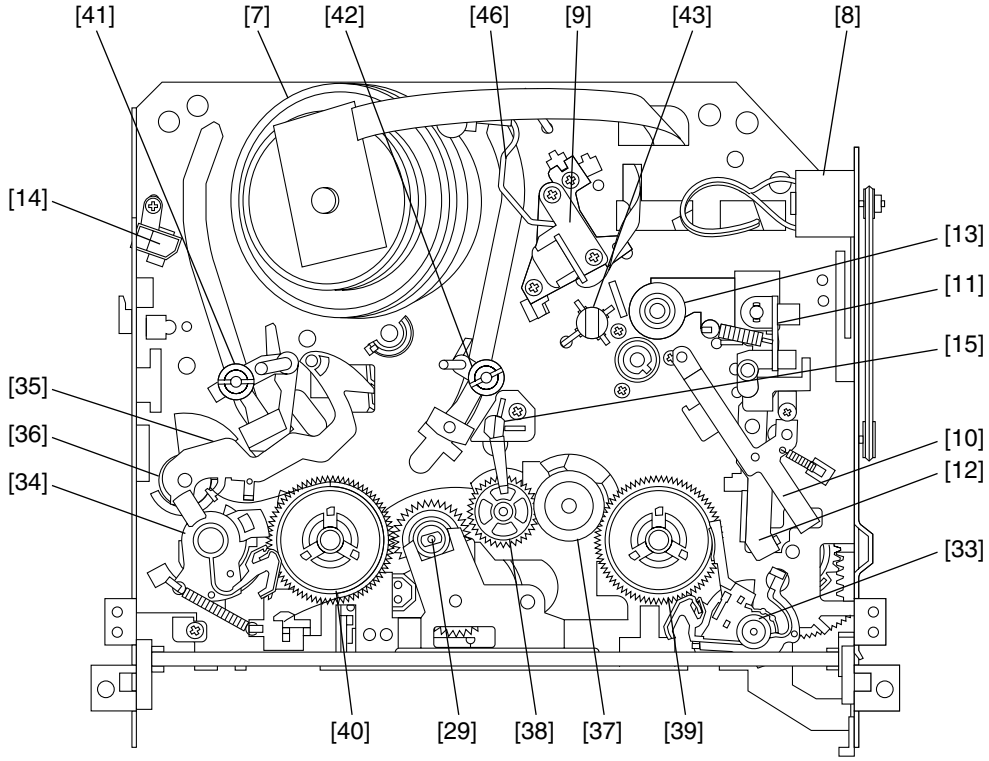


Fig. DM1

Bottom View

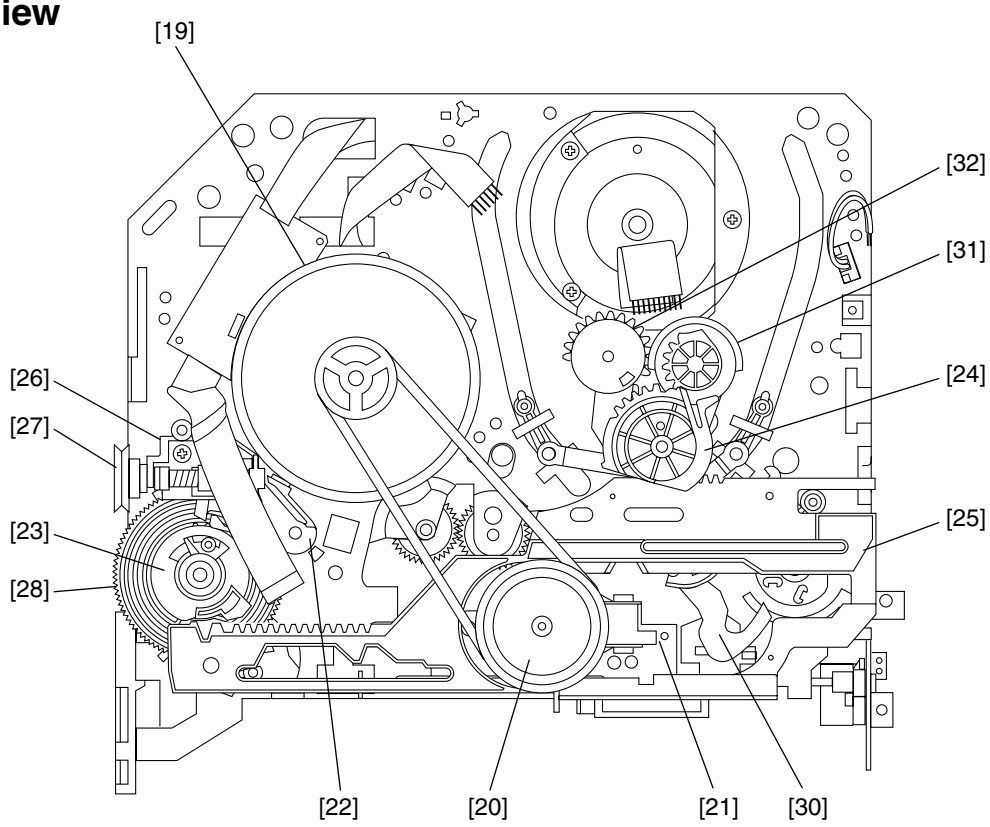


Fig. DM2

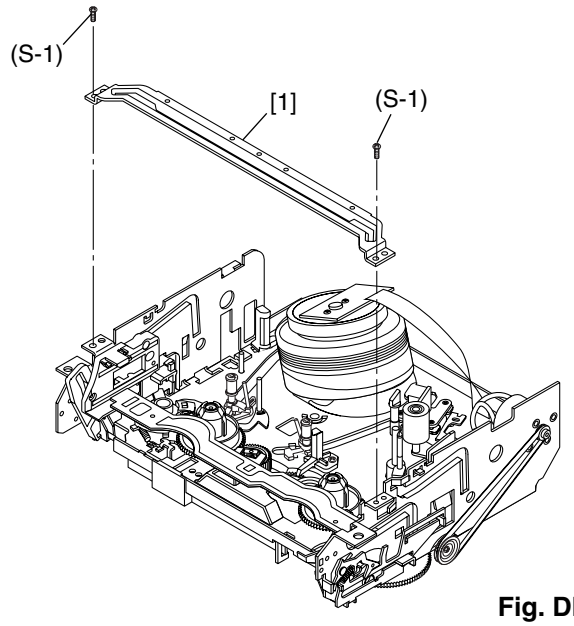


Fig. DM3

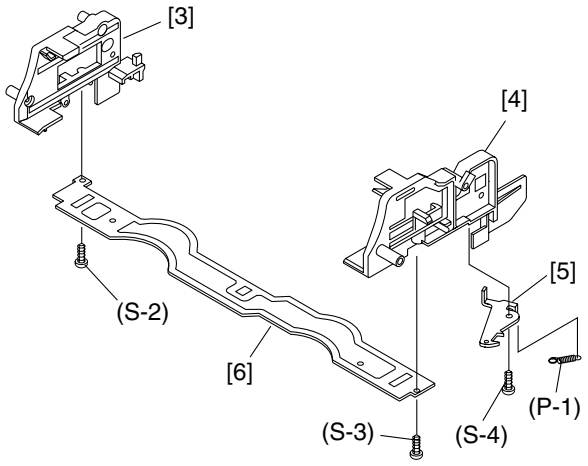
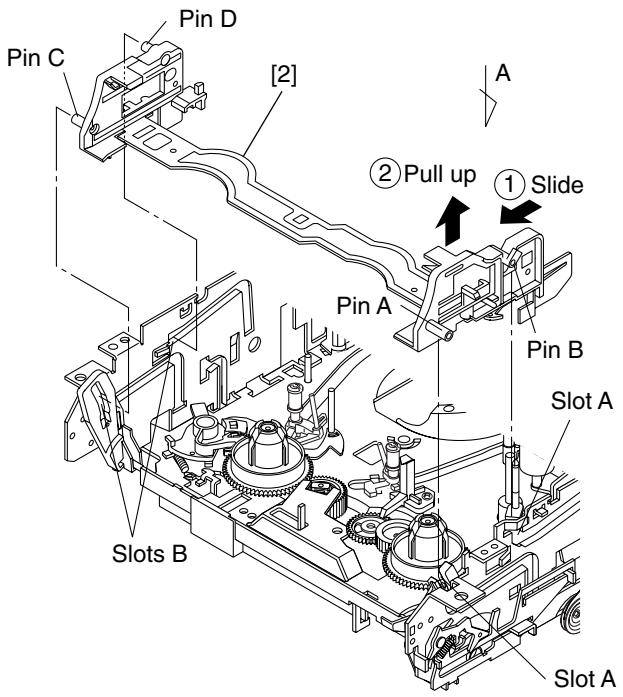


Fig. DM5



First, while pushing the locking tab as shown in the right, slide and pull up the right side on [2] to release Pin A and Pin B from the slots A.
Then, remove Pin C and Pin D on [2] from the slots B as shown.

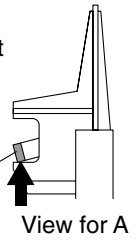
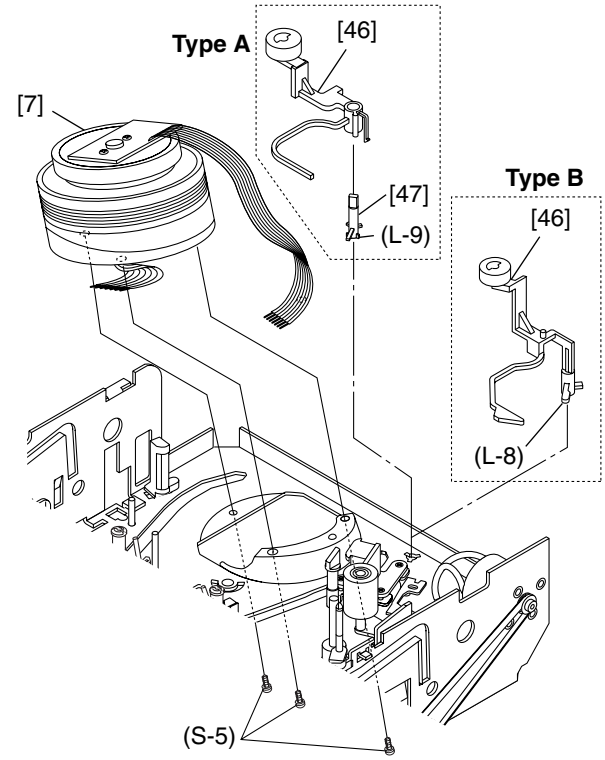


Fig. DM4



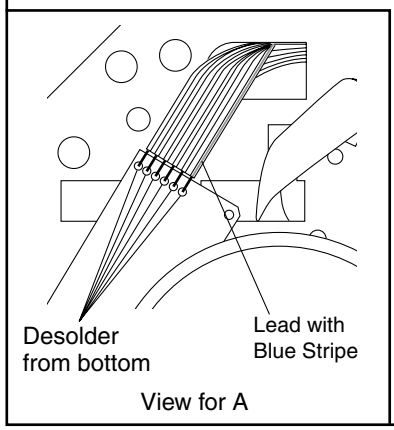


Fig. DM6

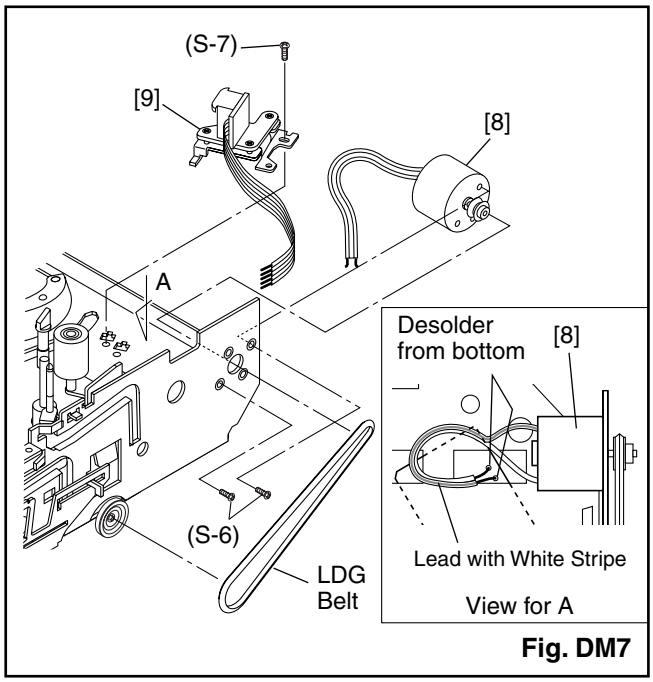


Fig. DM7

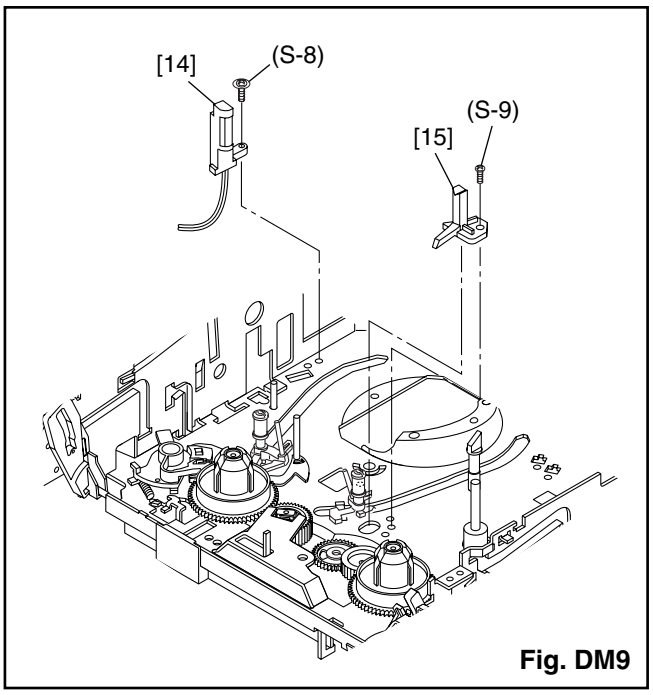
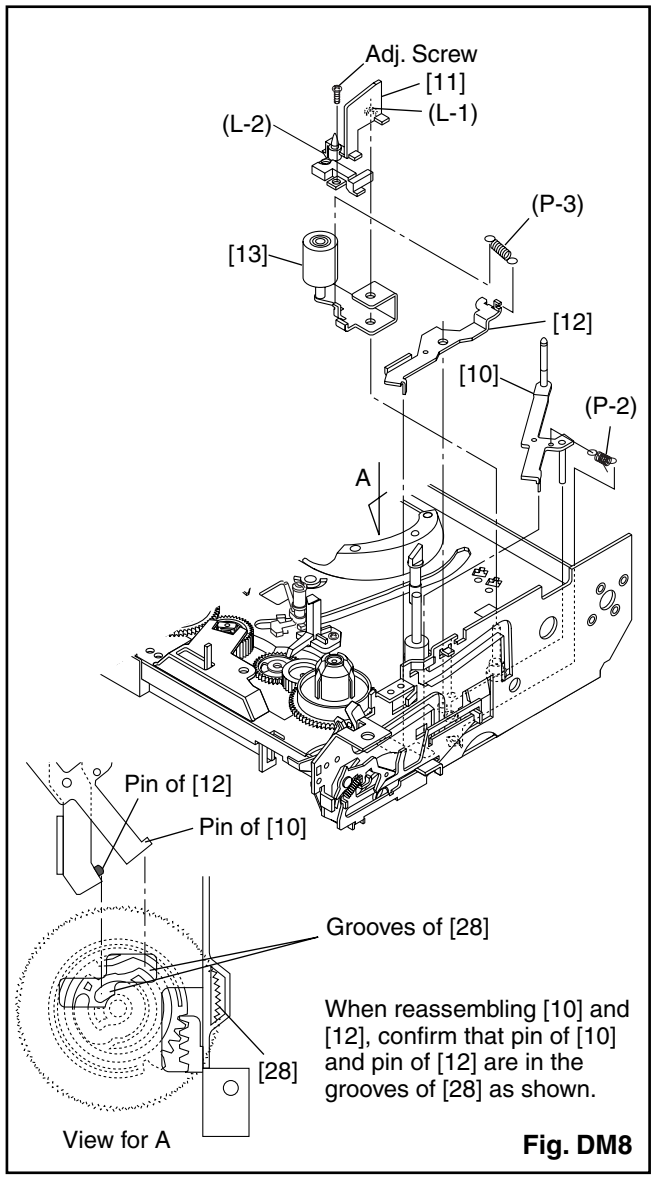


Fig. DM9



When reassembling [10] and [12], confirm that pin of [10] and pin of [12] are in the grooves of [28] as shown.

Fig. DM8

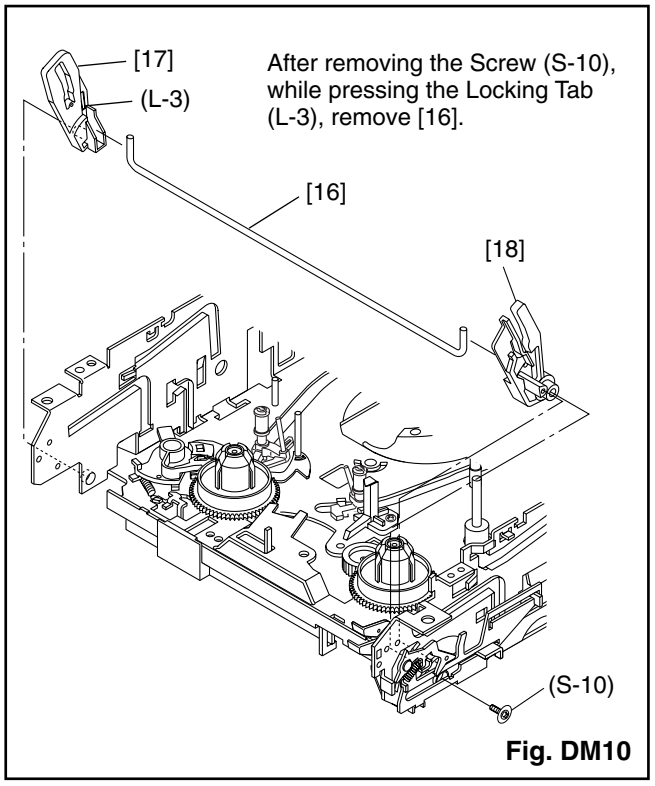


Fig. DM10

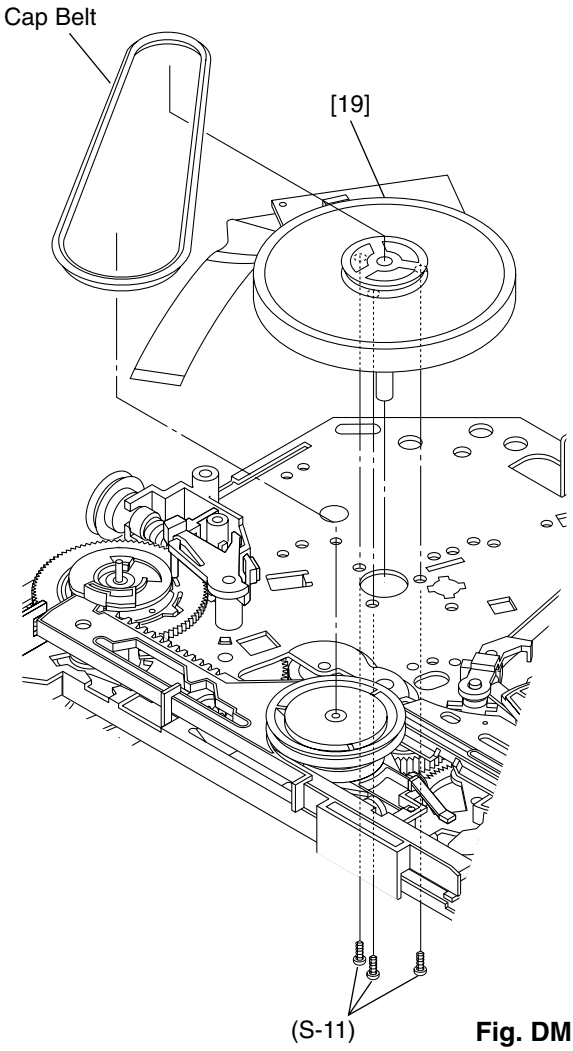


Fig. DM11

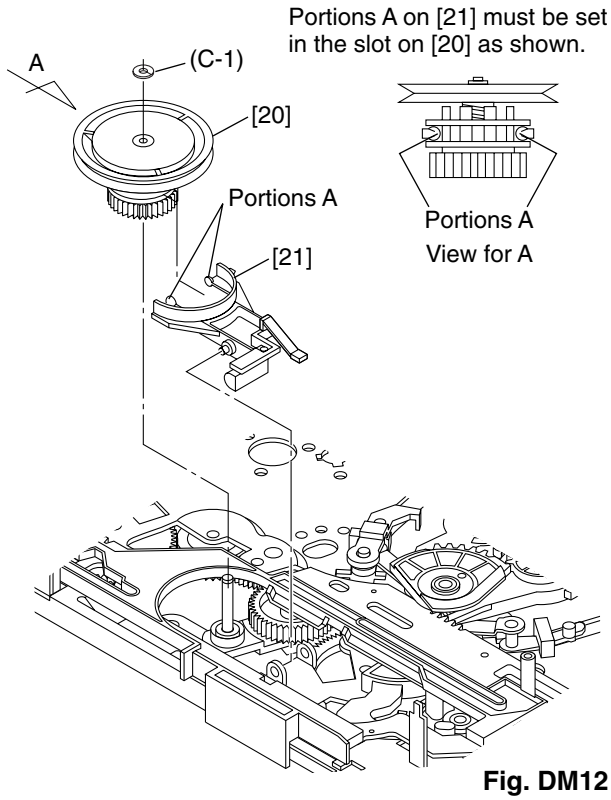
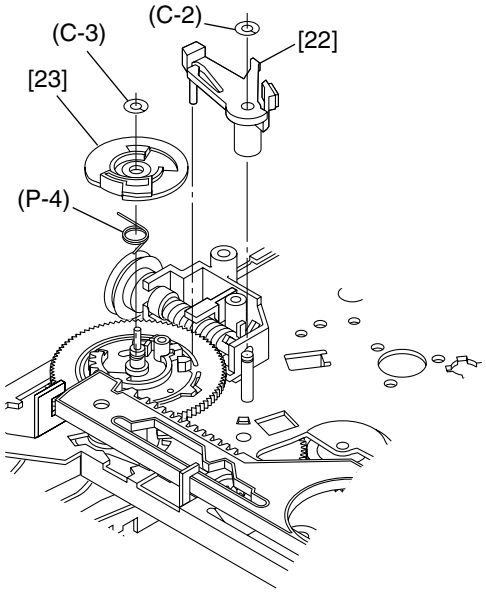
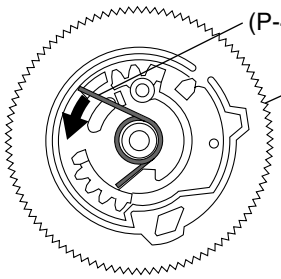


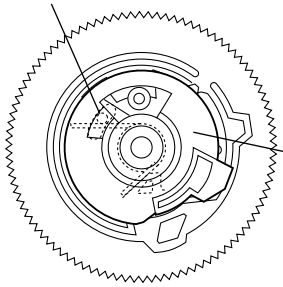
Fig. DM12



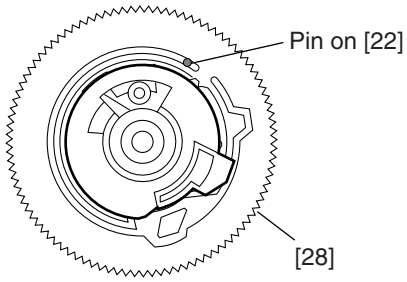


When installing [23], install the spring (P-4) to [28] as shown in the left figure, and then install [23] while pressing the spring (P-4) to the direction of the arrow in the left figure and confirming that the position of the spring (P-4) is placed as shown in the left figure.

Pin on bottom of [23]

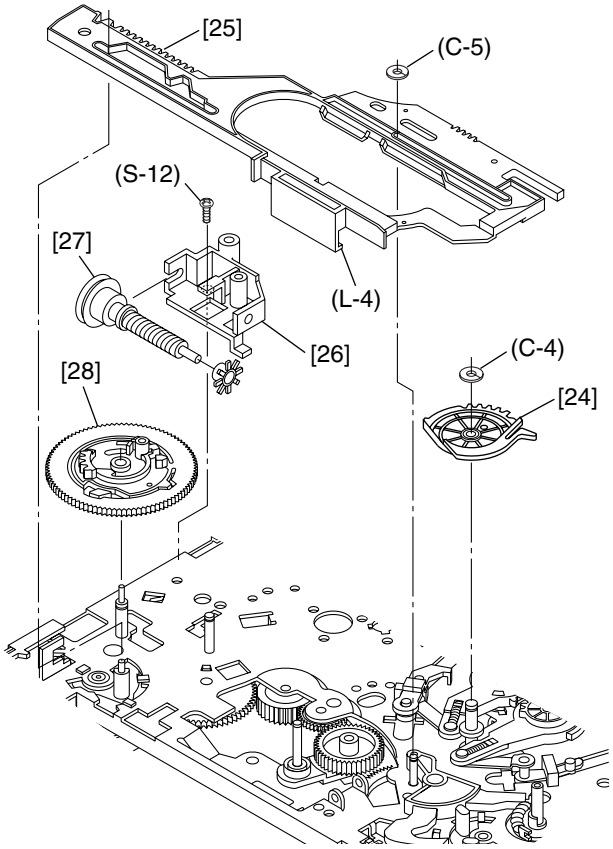


Top View

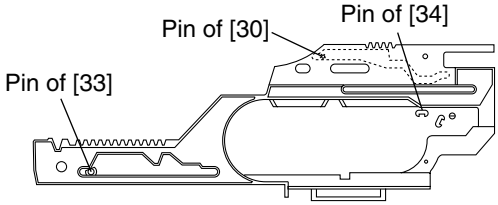


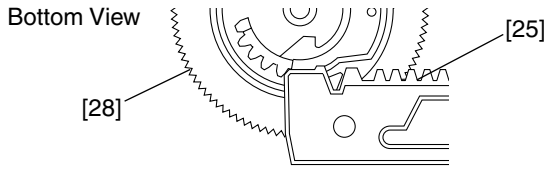
Position of pin on [22]

Fig. DM13

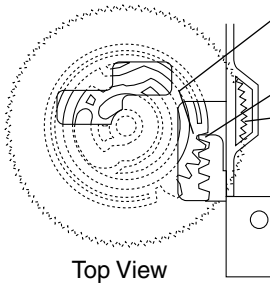


Position of Mode Lever when installed





Align [25] and [28] as shown.



When reassembling [28], meet the first groove on [28] to the first tooth on [44] as shown.

Top View

Fig. DM14

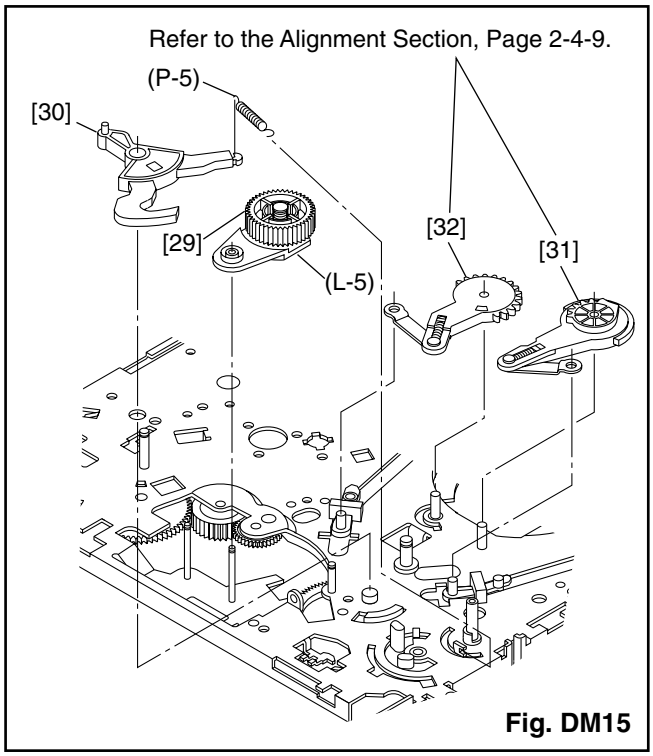


Fig. DM15

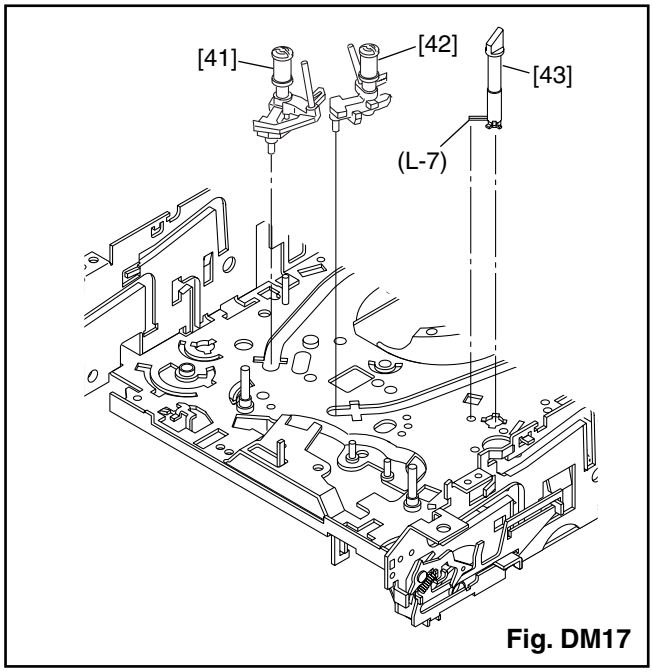


Fig. DM17

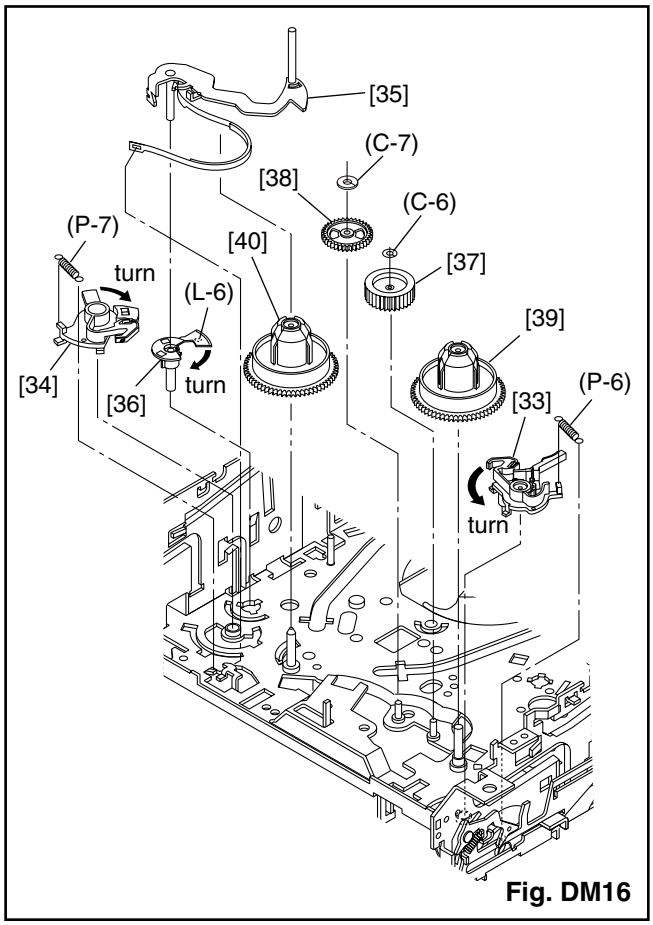


Fig. DM16

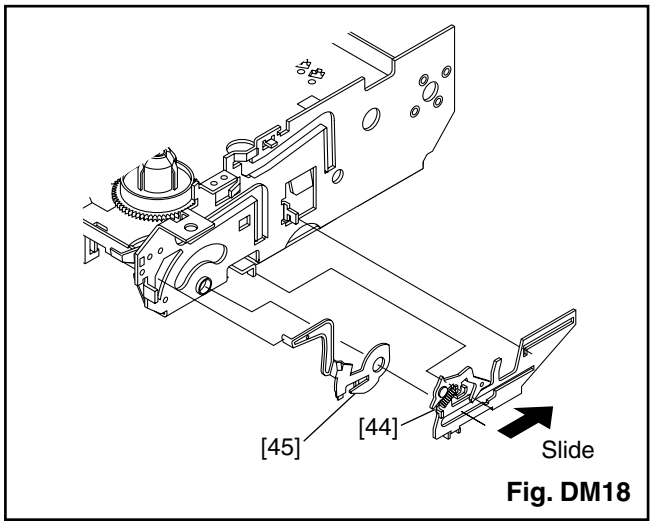


Fig. DM18

ALIGNMENT PROCEDURES OF MECHANISM

The following procedures describe how to align the individual gears and levers that make up the tape loading/unloading mechanism. Since information about the state of the mechanism is provided to the System Control Circuit only through the Mode Switch, it is essential that the correct relationship between individual gears and levers be maintained.

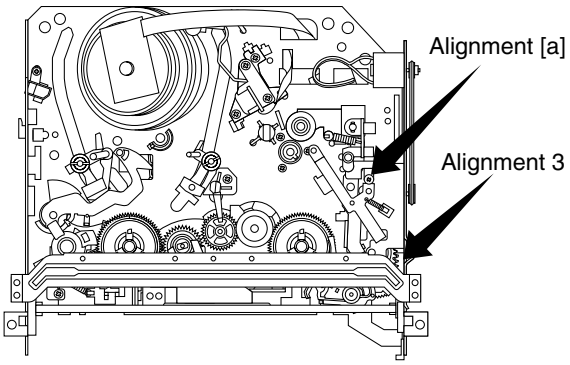
All alignments are to be performed with the mechanism in Eject mode, in the sequence given. Each procedure assumes that all previous procedures have been completed.

IMPORTANT:

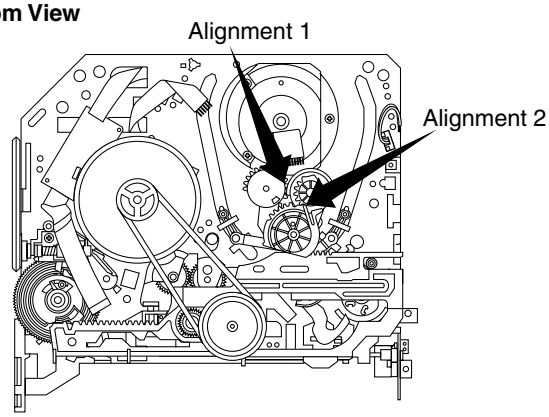
If any one of these alignments is not performed properly, even if off by only one tooth, the unit will unload or stop and it may result in damage to the mechanical or electrical parts.

Alignment points in Eject Position

Top View



Bottom View



Alignment [a] can be done independently of any other alignment.

Fig. AL1

Alignment 1

Loading Arm, S and T Assembly

Install Loading Arm S and T Assembly so that their triangle marks point to each other as shown in Fig. AL2.

Alignment 2

Mode Gear

Keeping the two triangles pointing at each other, install the Loading Arm T Assembly so that the last tooth of the gear meets the most inside teeth of the Mode Gear. See Fig. AL2.

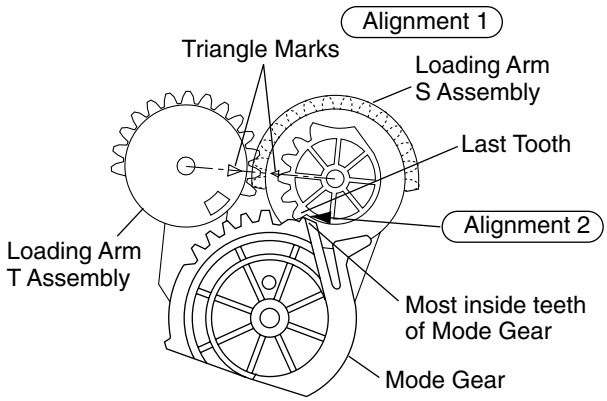


Fig. AL2

Alignment [a]

Tape Guide Assembly

Measurement of the screw must be as specified in Fig. AL3.

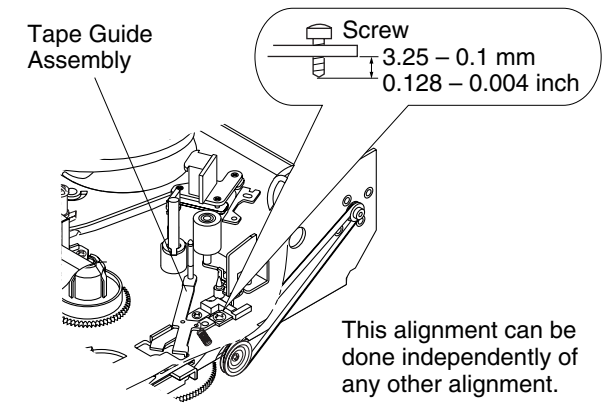


Fig. AL3

Alignment 3

Cam Gear (A), Rack Assembly

Install the Rack Assembly so that the first tooth on the gear of the Rack Assembly meets the first groove on the Cam Gear (A) as shown in Fig. AL4.

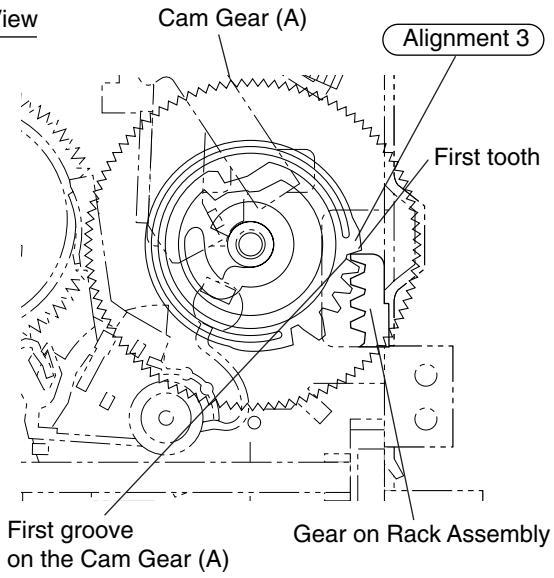


Fig. AL4

EXPLODED VIEWS AND PARTS LIST SECTION

VIDEO CASSETTE RECORDER

EWD2202

Sec. 3: Exploded views and Parts List Section
- **Exploded views**
- **Parts List**

TABLE OF CONTENTS

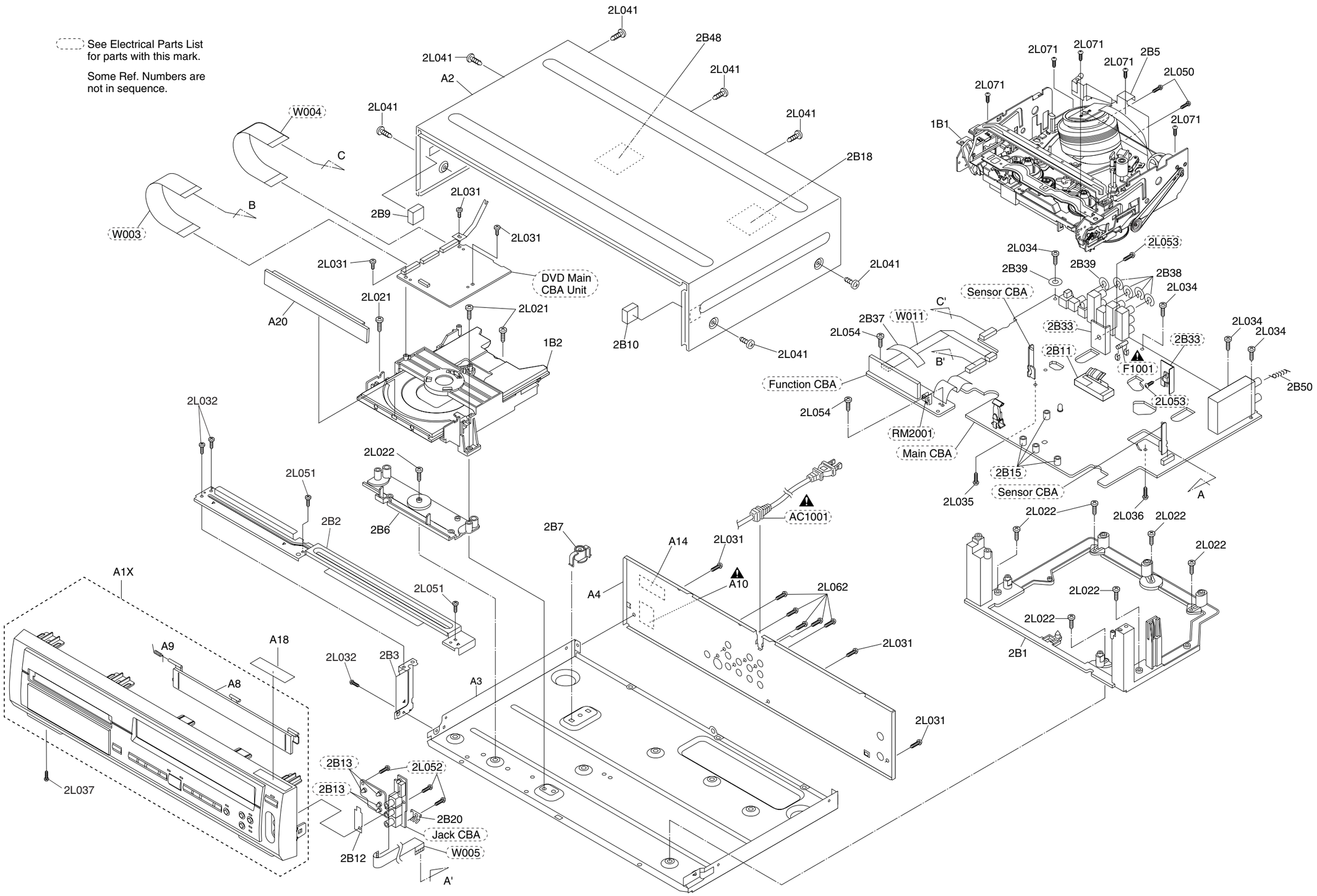
Exploded Views 3-1-1
Mechanical Parts List 3-2-1
Electrical Parts List 3-3-1
Deck Parts List 3-4-1

EXPLODED VIEWS

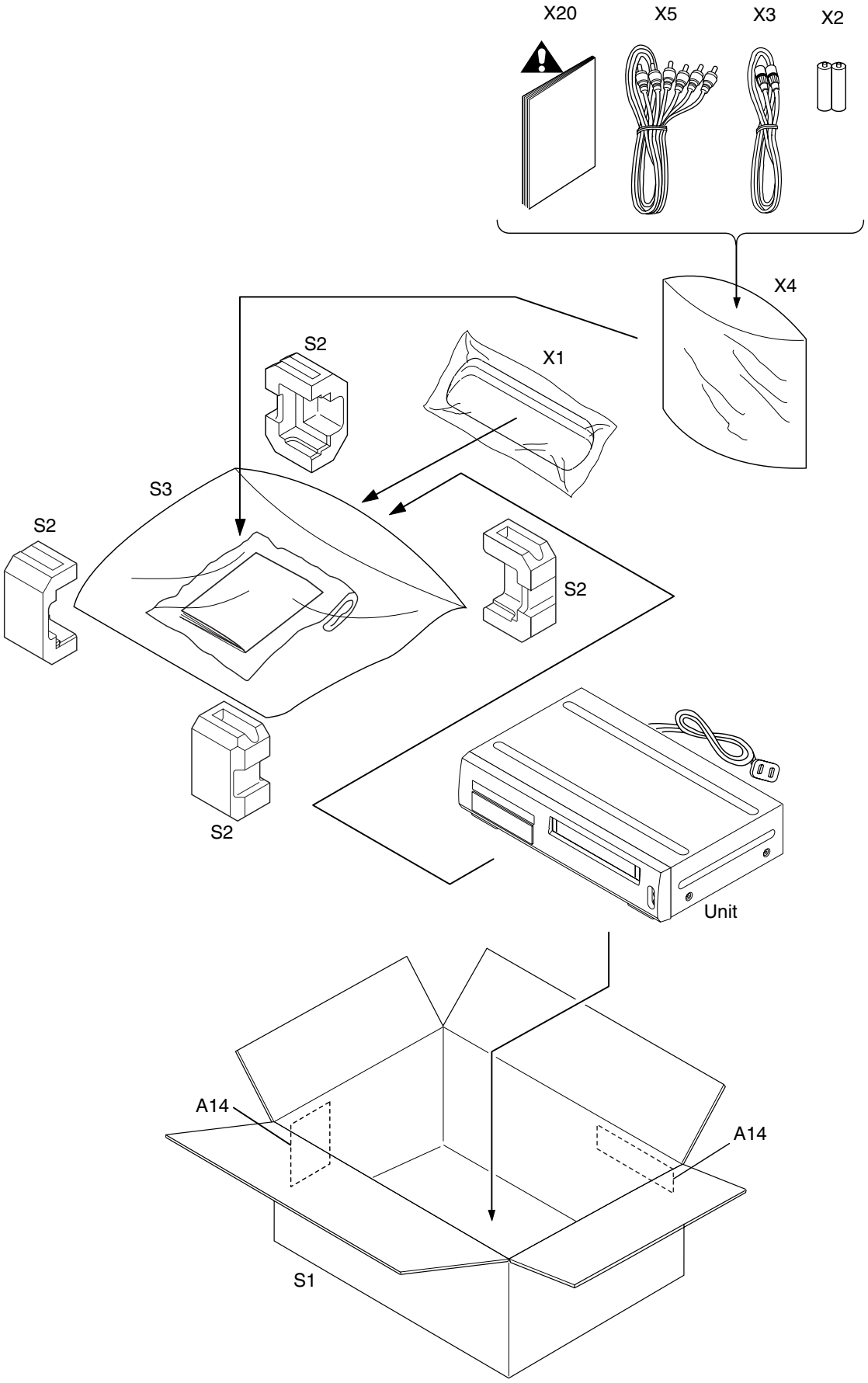
Cabinet

See Electrical Parts List for parts with this mark.

Some Ref. Numbers are not in sequence.

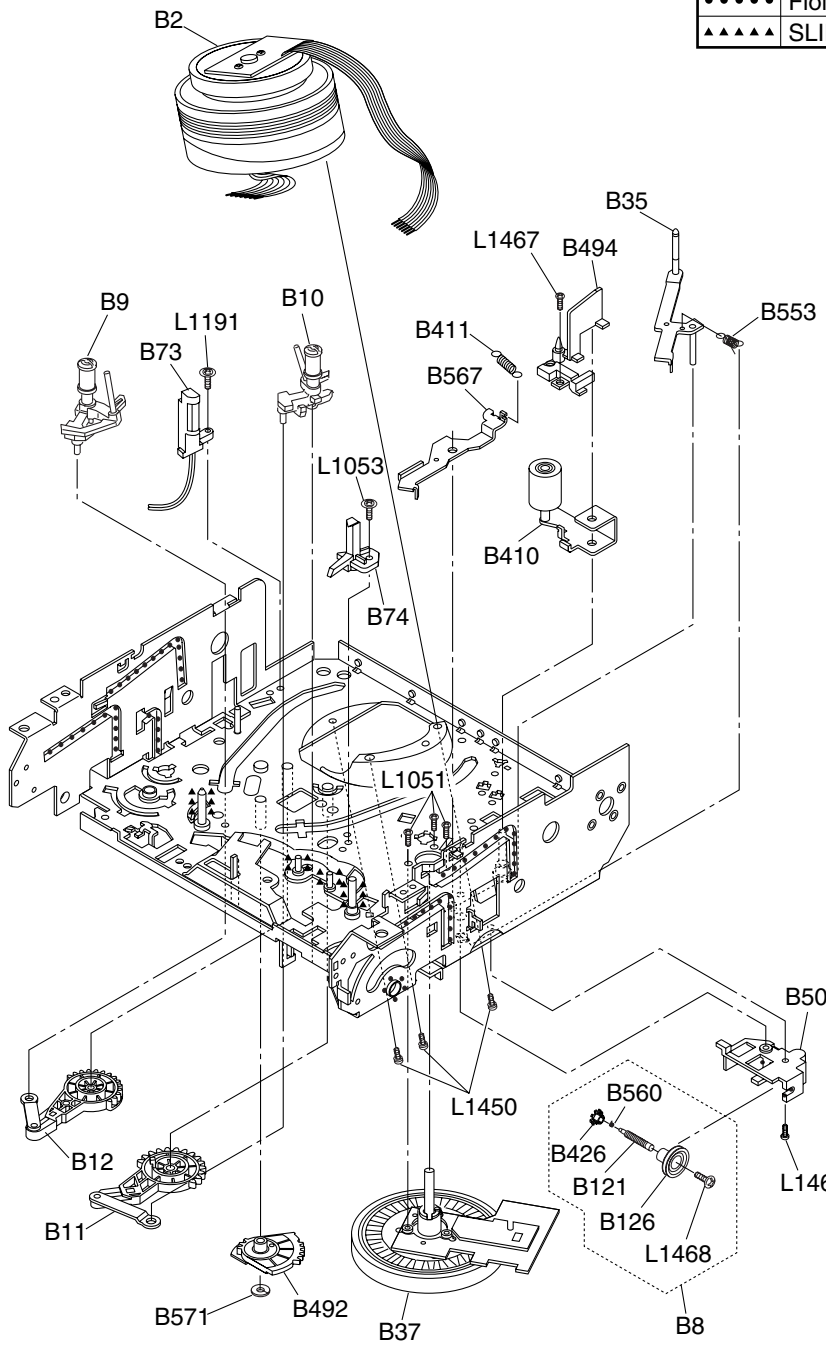


Packing



Deck Mechanism View 1

Mark	Description	Part No.
●●●●●	Floil G-374G (Blue grease)	0VZZ00109
▲▲▲▲▲	SLIDUS OIL #150	0VZZ00226



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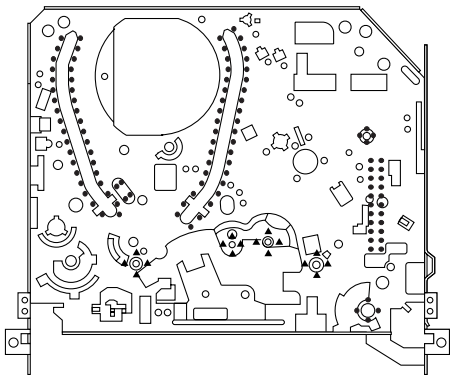
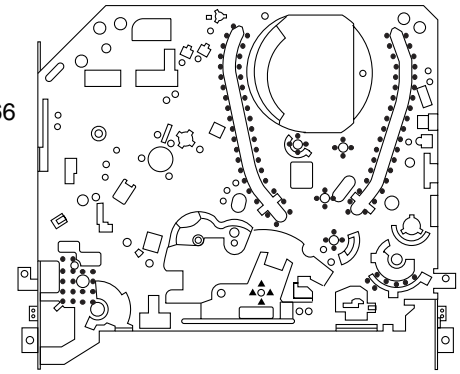


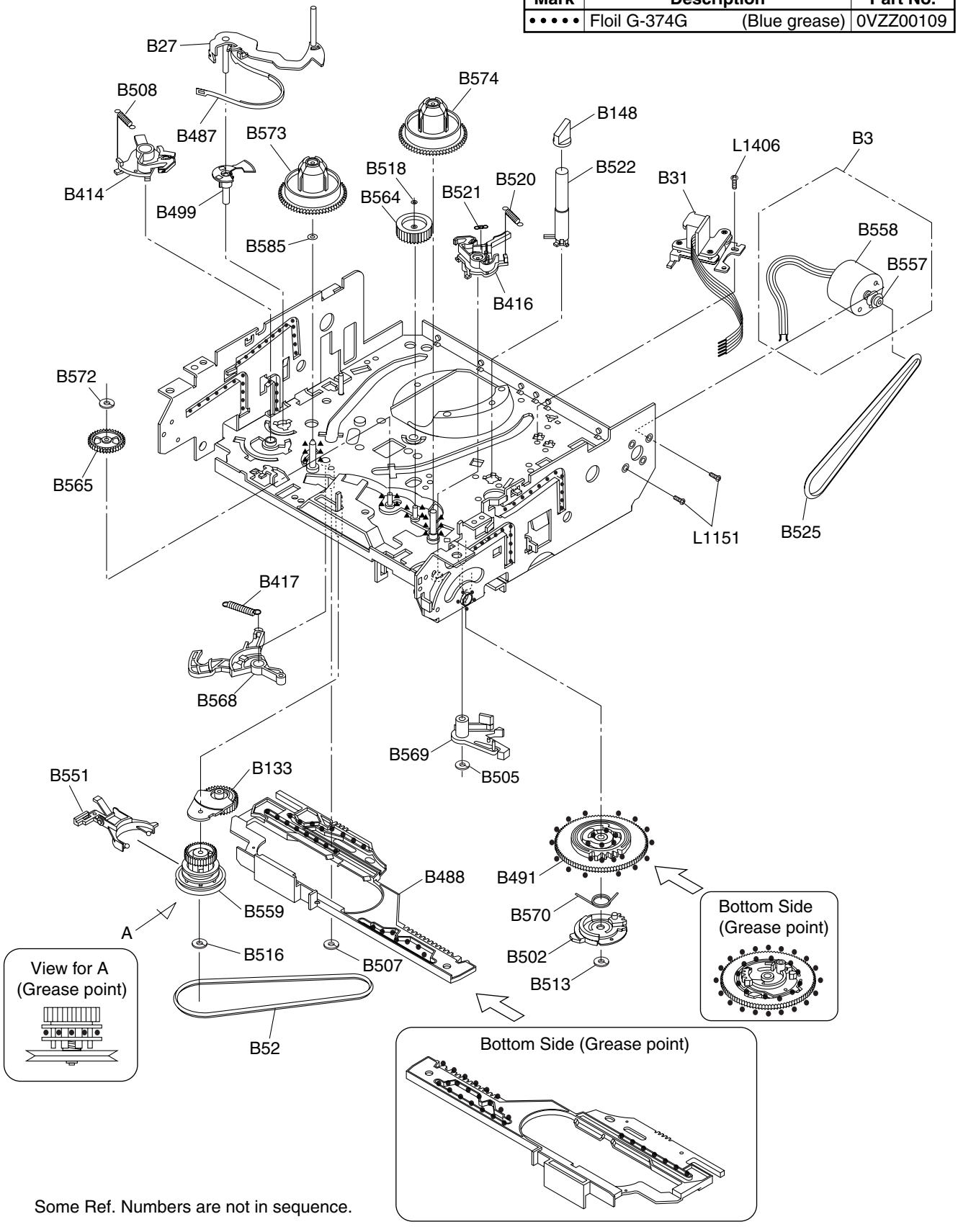
Chassis Assembly
Top View (Lubricating Point)



Chassis Assembly
Bottom View (Lubricating Point)

Deck Mechanism View 2

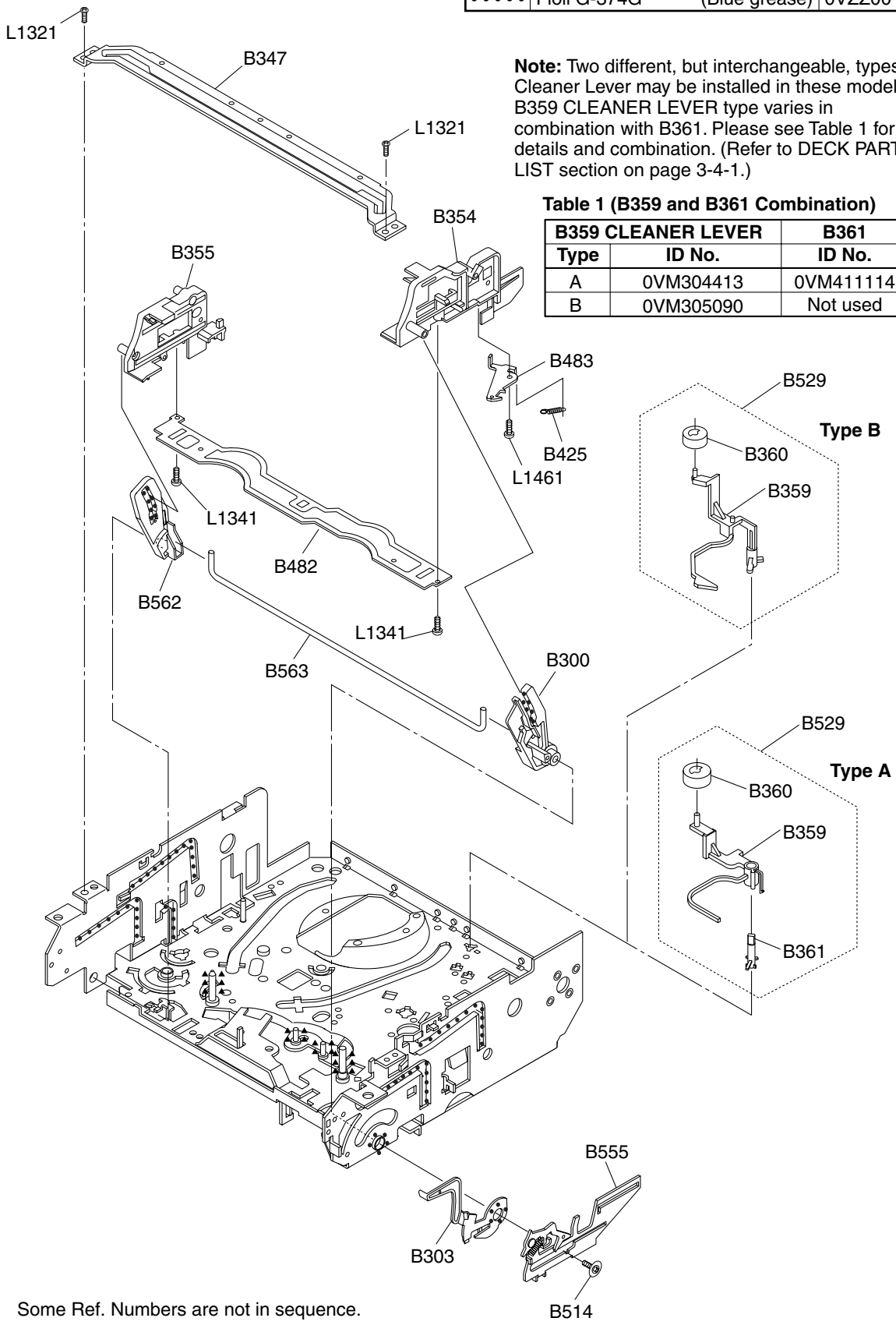
Mark	Description	Part No.
• • • • •	Floil G-374G (Blue grease)	0VZZ00109



Some Ref. Numbers are not in sequence.

Deck Mechanism View 3

Mark	Description		Part No.
• • • • •	Floil G-374G	(Blue grease)	0VZZ00109



Note: Two different, but interchangeable, types of Cleaner Lever may be installed in these models. B359 CLEANER LEVER type varies in combination with B361. Please see Table 1 for details and combination. (Refer to DECK PARTS LIST section on page 3-4-1.)

Table 1 (B359 and B361 Combination)

B359 CLEANER LEVER		B361
Type	ID No.	ID No.
A	0VM304413	0VM411114
B	0VM305090	Not used

Some Ref. Numbers are not in sequence.

MECHANICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTE:
Parts that are not assigned part numbers (---------) are not available.

Ref. No.	Description	Part No.
A1X	FRONT ASSEMBLY H9200UD	0VM203539
A2	TOP COVER H9200UD	0VM101107
A3	CHASSIS H9200UD	0VM101106
A4	PANEL, REAR H9200UD	0VM203473
A8	DOOR, CASSETTE H9200UD	0VM413261
A9	SPRING, DOOR H7220UD U15	0VM408617
A10⚠	LABEL, RATING H9200UD	---------
A14	LABEL, BAR CODE(NO PRINT)H1620UD or	0VM409096
	LABEL, BAR CODE H9200UD	0VM413290
A18	LABEL, TELEPHONE NUMBER H7931UD(EMERSON)	0VM411684
A20	TRAY ASSEMBLY H9200UD	0VM413267
1B1	DECK ASSEMBLY CZD011/VM1460	N1460FL
1B2	DVD LODER ASSEMBLY	N79F6FUN
2B1	DECK PEDESTAL-1 H9200UD	0VM101108-1
2B2	TOP BRACKET H9100UD	0VM203252
2B3	SIDE BRACKET H9100UD	0VM203377
2B5	SHEILD, CYLINDER HC460ED	0VM305182
2B6	DECK PEDESTAL-2 H9200UD	0VM101108-2
2B7	DECK PEDESTAL-3 H9200UD	0VM101108-3
2B9	CUSHION HC460ED	0VM413251
2B10	SIDE CUSHION HC470ED	0VM413392
2B12	PC SHEET H9200UD	0VM413562
2B18	TOP PLATE H9100UD	0VM412565
2B20	EARTH PLATE H9100UD	0VM305011
2B37	WIRE TAPE K3220UA	0VM404993
2B38	RCA EARTH H9200UD	0VM413582
2B39	WASHER(D8) H1600UD	0VM408931
2B48	TOP PLATE(2) H9100UD	0VM412699
2B50	SPRING, TUNER H9200UD	0VM413459
2L021	SCREW, S-TIGHT H9210UD	0VM413231
2L022	S-TIGHT SCREW 3X8 BIND + CHROME	GBMS3080
2L031	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
2L032	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
2L034	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
2L035	SCREW, B-TIGHT M3X8 BIND HEAD+	GBMB3080
2L036	SCREW, P-TIGHT M3X8 BIND HEAD+	GBCP3080
2L037	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
2L041	SCREW, C-TIGHT M3X5 BIND HEAD +	GBNC3050
2L050	SCREW, S-TIGHT M3X5 BIND HEAD+	GBMS3050
2L051	P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L054	P-TIGHT SCREW 3X8 BIND +	GBMP3080
2L062	SCREW, B-TIGHT M3X8 BIND HEAD +	GBKB3080
2L071	SCREW, P-TIGHT M3X10 WASHER HEAD+	GCMP3100

Ref. No.	Description	Part No.
	PACKING	
S1	GIFT BOX CARTON H9200UD	0VM305409
S2	STYROFOAM(2) H9100UD	0VM203377
S3	SET BAG E7708UA	0DM400731
	ACCESSORIES	
X1	REMOTE CONTROL UNIT 364/CRC006	NA202CD
X2	DRY BATTERY R6P/2S or	XB0M451T0001
	DRY BATTERY(SUNRISE) R6SSE/2S	XB0M451MS002
X3	RF CABLE 2.5C-2V	WPZ0901TM002
X4	ACCESSORY BAG H3600UD T=0.03	0VM409454
X5	AV CORD or	WPZ0102TM007
	AV CORD LP-970124 or	WPZ0102LG008
	AV CORD TSCKA-Y/RW100	WPZ0102TM015
X20⚠	OWNER'S MANUAL H9200UD	0VMN03017

ELECTRICAL PARTS LIST

PRODUCT SAFETY NOTE: Products marked with a ⚠ have special characteristics important to safety. Before replacing any of these components, read carefully the product safety notice in this service manual. Don't degrade the safety of the product through improper servicing.

NOTES:

1. Parts that are not assigned part numbers (---------) are not available.
2. Tolerance of Capacitors and Resistors are noted with the following symbols.

C.....±0.25%	D.....±0.5%	F.....±1%
G.....±2%	J.....±5%	K.....±10%
M.....±20%	N.....±30%	Z.....+80/-20%

3. LED Type:
   When it is necessary to replace one or more of the following diodes, all three should be replaced: D588, D589, D656 on the Main CBA.
   When it is necessary to replace one or more of the following diodes, all four should be replaced: D652, D653, D654, D655 on the Jack CBA.

DVD MAIN CBA UNIT

Ref. No.	Description	Part No.
	DVD MAIN CBA UNIT	N79F6FUP

MVC CBA

Ref. No.	Description	Part No.
	MCV CBA Consists of the following	0VSA12513
	MAIN CBA (MCV-A) FUNCTION CBA (MCV-B) JACK CBA(MCV-C) SENSOR CBA	---------- ---------- ---------- 0VSA12518

MAIN CBA

Ref. No.	Description	Part No.
	MAIN CBA(MVC-A) Consists of the followings	---------
	CAPACITORS	
C013	ELECTROLYTIC CAP. 10μF/50V M H7	CE1JMAVSL100
C017	FILM CAP.(P) 0.0015μF/100V J or	CMA2AJS00152
	FILM CAP.(P) 0.0015μF/50V J	CA1J152MS029
C018	ELECTROLYTIC CAP. 470μF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470μF/16V M	CE1CMASTL471
C019	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C020	ELECTROLYTIC CAP. 1000μF/16V M or	CE1CMZPDL102
	ELECTROLYTIC CAP. 1000μF/16V M	CE1CMZPTL102
C021	ELECTROLYTIC CAP. 470μF/10V M or	CE1AMASDL471
	ELECTROLYTIC CAP. 470μF/10V M	CE1AMASTL471
C023	ELECTROLYTIC CAP. 100μF/16V M H7	CE1CMAVSL101
C051	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C052	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C053	ELECTROLYTIC CAP. 330μF/6.3V M H7	CE0KMASSL331
C054	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP. B K 0.047μF/25V	CHD1EK30B473
C253	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C255	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C256	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C257	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C301	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C303	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C304	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V	CZM1GK30Y102
C305	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V	CZM1GK30Y222
C306	CHIP CERAMIC CAP.(MELF) W K 470pF/50V or	CZM1JK30B471
	CHIP CERAMIC CAP. CH J 470pF/50V or	CHD1JJ3CH471
	CHIP CERAMIC CAP. CG J 470pF/50V	CHD1JJ3CG471
C307	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C308	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C309	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C310	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C311	CHIP CERAMIC CAP. CH J 390pF/50V or	CHD1JJ3CH391
	CHIP CERAMIC CAP. CG J 390pF/50V	CHD1JJ3CG391
C312	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C313	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJ3SL180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJ3CH180
	CHIP CERAMIC CAP. CG J 18pF/50V	CHD1JJ3CG180
C314	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V	CZM1JJ3SL101
C315	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V	CZM1JJ3SL101
C317	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C320	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C321	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C322	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C324	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C325	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C326	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C328	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C329	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C330	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C331	CHIP CERAMIC CAP. CH J 330pF/50V or	CHD1JJ3CH331
	CHIP CERAMIC CAP. CG J 330pF/50V	CHD1JJ3CG331
C332	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C333	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C335	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C337	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C339	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C340	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C341	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C344	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C345	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C346	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C347	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C348	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JK30B473

Ref. No.	Description	Part No.
	CHIP CERAMIC CAP. B K 0.047μF/25V	CHD1EK30B473
C349	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP. B K 0.047μF/25V	CHD1EK30B473
C351	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C353	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C356	CHIP CERAMIC CAP. CH J 68pF/50V or	CHD1JJ3CH680
	CHIP CERAMIC CAP. CG J 68pF/50V	CHD1JJ3CG680
C391	ELECTROLYTIC CAP. 100μF/10V M H7	CE1AMAVSL101
C392	ELECTROLYTIC CAP. 470μF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470μF/6.3V M	CE0KMASTL471
C401	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C404	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C405	ELECTROLYTIC CAP. 33μF/6.3V M H7	CE0KMAVSL330
C408	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C409	CHIP CERAMIC CAP.(MELF) Y K 6800pF/16V	CZM1CK30Y682
C410	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C411	CHIP CERAMIC CAP.(MELF) Y K 2200pF/35V	CZM1GK30Y222
C413	CERAMIC CAP.(AX) Y M 0.012μF/16V	CCA1CMT0Y123
C415	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C416	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C417	CHIP CERAMIC CAP.(MELF) Y K 1000pF/35V	CZM1GK30Y102
C418	CERAMIC CAP.(AX) X K 2700pF/16V	CCA1CKT0X272
C419	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C422	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C423	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C424	CERAMIC CAP. B K 470pF/100V or	CCD2AKP0B471
	CERAMIC CAP. B K 470pF/500V	CCD2JKS0B471
C425	FILM CAP.(P) 0.018μF/100V J or	CMA2AJS00183
	FILM CAP.(P) 0.018μF/50V J	CA1J183MS029
C450	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP. B K 0.022μF/25V	CHD1EK30B223
C452	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C453	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C454	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C455	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C456	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C457	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C458	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C459	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C460	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C461	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V	CZM1CK30Y472
C462	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C463	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C464	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C465	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C466	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP. B K 0.022μF/25V	CHD1EK30B223
C467	CHIP CERAMIC CAP.(MELF) Y K 4700pF/16V	CZM1CK30Y472
C468	ELECTROLYTIC CAP. 22μF/6.3V M H7	CE0KMAVSL220
C469	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C470	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C471	ELECTROLYTIC CAP. 10μF/16V M H7	CE1CMAVSL100
C472	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C473	ELECTROLYTIC CAP. 2.2μF/50V M H7	CE1JMAVSL2R2
C474	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C475	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C476	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0

Ref. No.	Description	Part No.
C477	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C478	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C479	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C480	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C481	ELECTROLYTIC CAP. 0.1μF/50V M H7	CE1JMAVSLR10
C482	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C483	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C484	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C485	ELECTROLYTIC CAP. 22μF/16V M H7	CE1CMAVSL220
C486	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C487	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C488	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C489	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C491	ELECTROLYTIC CAP. 4.7μF/25V M H7	CE1EMAVSL4R7
C494	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C495	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C497	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C498	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C500	CERAMIC CAP.(AX) F Z 0.1μF/50V	CCA1JZTFZ104
C502	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C503	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP. B K 0.022μF/25V	CHD1EK30B223
C507	CHIP CERAMIC CAP.(MELF) SL J 22pF/50V or	CZM1JJ3SL220
	CHIP CERAMIC CAP. CH J 22pF/50V or	CHD1JJ3CH220
	CHIP CERAMIC CAP. CG J 22pF/50V	CHD1JJ3CG220
C508	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJ3SL180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJ3CH180
	CHIP CERAMIC CAP. CG J 18pF/50V	CHD1JJ3CG180
C509	CHIP CERAMIC CAP. B K 0.01μF/50V	CHD1JK30B103
C510	CHIP CERAMIC CAP. B K 0.047μF/50V or	CHD1JK30B473
	CHIP CERAMIC CAP. B K 0.047μF/25V	CHD1EK30B473
C514	CHIP CERAMIC CAP. B K 0.022μF/50V or	CHD1JK30B223
	CHIP CERAMIC CAP. B K 0.022μF/25V	CHD1EK30B223
C520	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C521	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C522	ELECTROLYTIC CAP. 220μF/6.3V M H7	CE0KMAVSL221
C529	ELECTROLYTIC CAP. 22μF/10V M H7	CE1AMAVSL220
C532	CHIP CERAMIC CAP.(MELF) SL J 100pF/50V	CZM1JJ3SL101
C534	CHIP CERAMIC CAP.(MELF) SL J 27pF/50V or	CZM1JJ3SL270
	CHIP CERAMIC CAP. CH J 27pF/50V or	CHD1JJ3CH270
	CHIP CERAMIC CAP. CG J 27pF/50V	CHD1JJ3CG270
C540	ELECTROLYTIC CAP. 330μF/6.3V M H7	CE0KMASSL331
C546	ELECTROLYTIC CAP. 47μF/16V M H7	CE1CMAVSL470
C560	ELECTROLYTIC CAP. 47μF/6.3V M H7	CE0KMAVSL470
C561	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C701	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C702	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C703	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C705	CHIP CERAMIC CAP.(MELF) F Z 0.01μF/16V	CZM1CZ30F103
C706	CERAMIC CAP. YV Z 0.01μF/50V or	CCD1JZSYV103
	CERAMIC CAP. F Z 0.01μF/50V	CCD1JZS0F103
C709	ELECTROLYTIC CAP. 0.22μF/50V M H7	CE1JMAVSLR22
C710	ELECTROLYTIC CAP. 1μF/50V M H7	CE1JMAVSL1R0
C751	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222
C752	CHIP CERAMIC CAP. B K 2200pF/50V	CHD1JK30B222

Ref. No.	Description	Part No.
C762	ELECTROLYTIC CAP. 4.7µF/50V M H7	CE1JMAVSL4R7
C766	CHIP CERAMIC CAP.(MELF) F Z 0.01µF/16V	CZM1CZ30F103
C771	ELECTROLYTIC CAP. 4.7µF/50V M H7	CE1JMAVSL4R7
C777	ELECTROLYTIC CAP. 4.7µF/50V M H7	CE1JMAVSL4R7
C780	ELECTROLYTIC CAP. 4.7µF/50V M H7	CE1JMAVSL4R7
C781	ELECTROLYTIC CAP. 4.7µF/50V M H7	CE1JMAVSL4R7
C853	CHIP CERAMIC CAP.(MELF) B K 180pF/50V or	CZM1JK30B181
	CHIP CERAMIC CAP. CH J 180pF/50V or	CHD1JJ3CH181
	CHIP CERAMIC CAP. CG J 180pF/50V	CHD1JJ3CG181
C855	ELECTROLYTIC CAP. 0.22µF/50V M H7	CE1JMAVSLR22
C857	ELECTROLYTIC CAP. 100µF/6.3V H7	CE0KMAVSL101
C858	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJ3SL180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJ3CH180
	CHIP CERAMIC CAP. CG J 18pF/50V	CHD1JJ3CG180
C859	CHIP CERAMIC CAP.(MELF) SL J 18pF/50V or	CZM1JJ3SL180
	CHIP CERAMIC CAP. CH J 18pF/50V or	CHD1JJ3CH180
	CHIP CERAMIC CAP. CG J 18pF/50V	CHD1JJ3CG180
C860	CHIP CERAMIC CAP.(MELF) SL D 10pF/50V or	CZM1JD3SL100
	CHIP CERAMIC CAP. CH D 10pF/50V or	CHD1JD3CH100
	CHIP CERAMIC CAP. CG D 10pF/50V	CHD1JD3CG100
C862	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C1001⚠	METALLIZED FILM CAP. 0.022µF/275V K or	CT2E223HJE05
⚠	METALLIZED FILM CAP. 0.022µF/250V K or	CT2E223DC011
⚠	METALLIZED FILM CAP. 0.022µF/250V M	CT2E223MS037
C1002	ELECTROLYTIC CAP. 22µF/50V M H7	CE1JMAVSL220
C1003	CERAMIC CAP. B K 0.01µF/500V	CCD2JKP0B103
C1004	ELECTROLYTIC CAP. 220µF/200V M	CA2D221S6008
C1005	CERAMIC CAP. B K 470pF/500V	CCD2JKP0B471
C1006⚠	SAFETY CAP. 2200pF/250V or	CCG2EMA0F222
⚠	SAFETY CAP. 2200pF/250V	CA2E222MR046
C1007	ELECTROLYTIC CAP. 1000µF/6.3V M or	CE0KMASDL102
	ELECTROLYTIC CAP. 1000µF/6.3V M	CE0KMASTL102
C1012	ELECTROLYTIC CAP. 470µF/25V M or	CE1EMASDL471
	ELECTROLYTIC CAP. 470µF/25V M	CE1EMASTL471
C1013	CERAMIC CAP.(AX) B K 3300pF/50V	CA1J332TU011
C1018	ELECTROLYTIC CAP. 100µF/10V M H7	CE1AMAVSL101
C1021	CERAMIC CAP.(AX) Y M 0.01µF/16V	CCA1CMT0Y103
C1022	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1023	FILM CAP.(P) 0.0015µF/100V J or	CMA2AJS00152
	FILM CAP.(P) 0.0015µF/50V J	CA1J152MS029
C1029	CERAMIC CAP.(AX) X K 5600pF/16V	CCA1CKT0X562
C1031	CERAMIC CAP. B K 0.01µF/50V	CCD1JKS0B103
C1032	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMAVSL100
C1033	CERAMIC CAP. YV Z 0.022µF/50V or	CCD1JZSYV223
	CERAMIC CAP. F Z 0.022µF/50V	CCD1JZS0F223
C1035	ELECTROLYTIC CAP. 470µF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASTL471
C1036	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1037	ELECTROLYTIC CAP. 100µF/6.3V H7	CE0KMAVSL101
C1038	ELECTROLYTIC CAP. 470µF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASTL471
C1041	ELECTROLYTIC CAP. 100µF/6.3V M or	CE0KMASDL101
	ELECTROLYTIC CAP. 100µF/6.3V M	CE0KMASTL101
C1042	ELECTROLYTIC CAP. 220µF/6.3V M H7	CE0KMAVSL221
C1043	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1044	ELECTROLYTIC CAP. 47µF/25V M or	CE1EMASDL470
	ELECTROLYTIC CAP. 47µF/25V M	CE1EMASTL470
C1046	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZ30F104

Ref. No.	Description	Part No.
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1048	ELECTROLYTIC CAP. 220µF/16V M or	CE1CMASDL221
	ELECTROLYTIC CAP. 220µF/16V M	CE1CMASTL221
C1049	CHIP CERAMIC CAP. B K 0.1µF/50V	CHD1JK30B104
C1201	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1202	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1203	CHIP CERAMIC CAP. CH J 680pF/50V or	CHD1JJ3CH681
	CHIP CERAMIC CAP. CH J 680pF/25V or	CHD1EJ3CH681
	CHIP CERAMIC CAP. CG J 680pF/50V	CHD1JJ3CG681
C1204	CHIP CERAMIC CAP. CH J 680pF/50V or	CHD1JJ3CH681
	CHIP CERAMIC CAP. CH J 680pF/25V or	CHD1EJ3CH681
	CHIP CERAMIC CAP. CG J 680pF/50V	CHD1JJ3CG681
C1205	CHIP CERAMIC CAP. CH J 390pF/50V or	CHD1JJ3CH391
	CHIP CERAMIC CAP. CG J 390pF/50V	CHD1JJ3CG391
C1206	CHIP CERAMIC CAP. CH J 390pF/50V or	CHD1JJ3CH391
	CHIP CERAMIC CAP. CG J 390pF/50V	CHD1JJ3CG391
C1207	CHIP CERAMIC CAP. CH D 9pF/50V	CHD1JD3CH9R0
C1208	CHIP CERAMIC CAP. CH D 9pF/50V	CHD1JD3CH9R0
C1221	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1222	ELECTROLYTIC CAP. 10µF/16V M H7	CE1CMASSL100
C1223	CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JK30B472
C1224	CHIP CERAMIC CAP. B K 4700pF/50V	CHD1JK30B472
C1245	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1246	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1247	ELECTROLYTIC CAP. 470µF/16V M or	CE1CMASDL471
	ELECTROLYTIC CAP. 470µF/16V M	CE1CMASTL471
C1249	ELECTROLYTIC CAP. 47µF/16V M H7	CE1CMAVSL470
C1353	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP. B K 0.1µF/16V	CHD1CK30B104
C1354	CHIP CERAMIC CAP. CH J 100pF/50V or	CHD1JJ3CH101
	CHIP CERAMIC CAP. CG J 100pF/50V	CHD1JJ3CG101
C1356	ELECTROLYTIC CAP. 47µF/6.3V M H7	CE0KMAVSL470
C1391	ELECTROLYTIC CAP. 220µF/6.3V M H7	CE0KMAVSL221
C1401	CHIP CERAMIC CAP. B K 0.33µF/10V	CHD1AK30B334
C1402	PCB JUMPER D0.6-P5.0	JW5.0T
C1421	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1422	CHIP CERAMIC CAP. B K 0.1µF/25V or	CHD1EK30B104
	CHIP CERAMIC CAP. B K 0.1µF/16V	CHD1CK30B104
C1441	CHIP CERAMIC CAP. B K 0.33µF/10V	CHD1AK30B334
C1442	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1461	ELECTROLYTIC CAP. 1µF/50V M H7	CE1JMAVSL1R0
C1462	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1481	ELECTROLYTIC CAP. 1µF/50V M H7	CE1JMAVSL1R0
C1482	ELECTROLYTIC CAP. 470µF/6.3V M or	CE0KMASDL471
	ELECTROLYTIC CAP. 470µF/6.3V M	CE0KMASTL471
C1523	CHIP CERAMIC CAP. F Z 0.1µF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1µF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1µF/50V	CHD1JZ3FZ104
C1531	CHIP CERAMIC CAP. B K 0.01µF/50V	CHD1JK30B103
C1532	ELECTROLYTIC CAP. 22µF/6.3V M H7	CE0KMAVSL220
C1534	CERAMIC CAP.(AX) B K 330pF/50V or	CCA1JKT0B331
	CERAMIC CAP.(AX) B J 330pF/50V	CCA1JJT0B331
	CONNECTORS	
CN505	FE CONNECTOR, TOP 10P 10FE-BT-VK-N	JCFEJ10JG001
CN1001	FMN CONNECTOR, SIDE 26P 26FMN-STRK	JCFNG26JG004

Ref. No.	Description	Part No.
CN1601	FMN CONNECTOR, SIDE 18P 18FMN-STK	JCFNG18JG003
CN2002	FMN CONNECTOR, SIDE 10P 10FMN-STK	JCFNG10JG003
	DIODES	
D013	RECTIFIER DIODE BA157 or	NDQZ000BA157
	FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D015	RECTIFIER DIODE FR202 or	NDQZ000FR202
	FAST RECOVERY DIODE ERB32-01	QDPZ0ERB3201
D016	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D018	ZENER DIODE DZ-9.1BSCT265 or	NDTC0DZ9R1BS
	ZENER DIODE MTZJT-779.1C	QDTC0MTZJ9R1
D019	PCB JUMPER D0.6-P10.0	JW10.0T
D020	PCB JUMPER D0.6-P5.0	JW5.0T
D052	ZENER DIODE DZ-10BSBT265 or	NDTB00DZ10BS
	ZENER DIODE MTZJT-7710B	QDTB00MTZJ10
D054	RECTIFIER DIODE RL151	NDQZ000RL151
D055	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D057	ZENER DIODE DZ-5.1BSCT265 or	NDTC0DZ5R1BS
	ZENER DIODE MTZJT-775.1C	QDTC0MTZJ5R1
D071	RECTIFIER DIODE 1N4005	NDQZ001N4005
D301	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D302	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D303	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D501	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D555	LED SIR-563ST3F P or	QPQPS1R563ST
	LED SIR-563ST3F Q	QPQQS1R563ST
D701	ZENER DIODE DZ-33BSDT265 or	NDTD00DZ33BS
	ZENER DIODE MTZJT-7733D	QDTD00MTZJ33
D702	ZENER DIODE DZ-8.2BSAT265 or	NDTA0DZ8R2BS
	ZENER DIODE MTZJT-778.2A	QDTA0MTZJ8R2
D1001	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1002	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1003	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1004	RECTIFIER DIODE 1N4005	NDQZ001N4005
D1006	PCB JUMPER D0.6-P5.0	JW5.0T
D1007	PCB JUMPER D0.6-P5.0	JW5.0T
D1008	SCHOTTKY BARRIER DIODE SB340	NDQZ000SB340
D1009	RECTIFIER DIODE FR202 or	NDQZ000FR202
	FAST RECOVERY DIODE ERB32-01	QDPZ0ERB3201
D1010	RECTIFIER DIODE BA157 or	NDQZ000BA157
	FAST RECOVERY DIODE ERA18-04	QDPZ0ERA1804
D1011	RECTIFIER DIODE BA158 or	NDQZ000BA158
	RECTIFIER DIODE ERA22-10	QDPZ0ERA2210
D1012	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1015	ZENER DIODE DZ-6.8BSBT265 or	NDTB0DZ6R8BS
	ZENER DIODE MTZJT-776.8B	QDTB0MTZJ6R8
D1016	RECTIFIER DIODE FR101	NDWZ000FR101
D1017	ZENER DIODE DZ-22BSBT265 or	NDTB00DZ22BS
	ZENER DIODE MTZJT-7722B	QDTB00MTZJ22
D1018	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1022	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1024	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1025	SWITCHING DIODE 1N4148M or	NDTZ01N4148M

Ref. No.	Description	Part No.
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1030	RECTIFIER DIODE FR202 or	NDQZ000FR202
	FAST RECOVERY DIODE ERB32-01	QDPZ0ERB3201
D1035	PCB JUMPER D0.6-P10.0	JW10.0T
D1036	ZENER DIODE DZ-13BSBT265 or	NDTB00DZ13BS
	ZENER DIODE MTZJT-7713B	QDTB00MTZJ13
D1045	PCB JUMPER D0.6-P10.0	JW10.0T
D1048	ZENER DIODE DZ-15BSBT265 or	NDTB00DZ15BS
	ZENER DIODE MTZJT-7715B	QDTB00MTZJ15
D1049	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D1053	PCB JUMPER D0.6-P10.0	JW10.0T
D2005	RECTIFIER DIODE 1N4005	NDQZ001N4005
D2006	RECTIFIER DIODE 1N4005	NDQZ001N4005
D2007	RECTIFIER DIODE 1N4005	NDQZ001N4005
	LED EXCLUSIVE(A)	
D588	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D589	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D656	LED(RED) 204HD/E	NPQZ00204HDE
	LED EXCLUSIVE(B)	
D588	LED(GREEN) LTL-4231N	NPQZLTL4231N
D589	LED(GREEN) LTL-4231N	NPQZLTL4231N
D656	LED(RED) LTL-4211N	NPQZLTL4211N
	ICS	
IC301	IC:Y/C/A LA71091M	QSZBA0RSY012
IC451	IC:HIFI LA72655M	QSZBA0RSY024
IC501	MICROCONTROLLER 16BIT M37768M6A-1C8GP	QSZAA0RMB116
IC751	IC:SWITCH TC4053BF(N)	QSMBA0STS002
IC1001⚠	PHOTOCOUPLER LTV-817B-F or	NPEB0LTV817F
⚠	PHOTOCOUPLER LTV-817C-F	NPEC0LTV817F
IC1002⚠	1.8V REGULATOR PQ018EF01SZ	QSZBA0SSH012
IC1003	IC KIA431-AT	NSZLA0TJY001
IC1004⚠	3.3V REGULATOR KIA78R33PI or	NSZBA0SJY015
⚠	3.3V REGULATOR(1A) PQ3RD13(1A)	QSBLA0SSH012
IC1006	IC KIA431-AT	NSZLA0TJY001
IC1201	IC:OP AMP KIA4558P or	NSZBA0SJY004
	IC:OP AMP NJM4558D	QSZBA0SJR006
IC1402	DRIVER FOR DVD (6CH) MM1567AJ	QSZBA0SMM084
	COILS	
L009	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L010	PCB JUMPER D0.6-P5.0	JW5.0T
L251	INDUCTOR 22μH-K-26T	LLAXKATTU220
L301	INDUCTOR 100μH-K-26T	LLAXKATTU101
L303	INDUCTOR 220μH-K-26T	LLAXKATTU221
L304	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L421	INDUCTOR 47μH-K-5FT	LLARKBSTU470
L422	PCB JUMPER D0.6-P5.0	JW5.0T
L451	PCB JUMPER D0.6-P5.0	JW5.0T
L452	PCB JUMPER D0.6-P5.0	JW5.0T
L501	PCB JUMPER D0.6-P5.0	JW5.0T
L502	INDUCTOR 100μH-K-26T	LLAXKATTU101
L503	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L701	INDUCTOR 4.7μH-K-26T	LLAXKATTU4R7
L702	PCB JUMPER D0.6-P5.0	JW5.0T
L851	INDUCTOR 1.8μH-K-26T	LLAXKATTU1R8
L852	INDUCTOR 22μH-K-26T	LLAXKATTU220
L853	INDUCTOR 12μH-K-26T	LLAXKATTU120

Ref. No.	Description	Part No.
L1001⚠	LINE FILTER 27MH TLF14CB2730R4 or	LLBG00ZTU034
⚠	LINE FILTER 26MH ELF15N004A	LLBG00ZMS042
L1004	BEAD CORE B16 RH 3.5X10X1.3 or	XL03010XM001
	BEAD CORE HF70BB3.5X10X1.3	XL03010TE001
L1007	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L1008	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L1009	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
L1251	INDUCTOR 0.47μH-K-26T	LLAXKATTUR47
L1521	CHOKE COIL 47μH-K or	LLBD00PKV007
	CHOKE COIL 47μH-K	LLBD00PKV005
	TRANSISTORS	
Q052	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q055	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q056	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q060	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q301	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q302	TRANSISTOR KTC3193(Y)	NQSY0KTC3193
Q303	TRANSISTOR KTC3193(Y)	NQSY0KTC3193
Q391	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q421	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q422	TRANSISTOR KTC3203(Y) or	NQSY0KTC3203
	TRANSISTOR 2SC2120-Y(TPE2)	QQSY02SC2120
Q423	TRANSISTOR KTC3198(Y) or	NQSY0KTC3198
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U)	QSC3331UNPAA
Q424	TRANSISTOR KTC3198(Y) or	NQSY0KTC3198
	TRANSISTOR KTC3198(GR) or	NQS40KTC3198
	TRANSISTOR 2SC536NF-NPA-AT or	QQSFC536NNPA
	TRANSISTOR 2SC536NG-NPA-AT or	QQSGC536NNPA
	TRANSISTOR 2SC3331(T) or	QSC3331TNPAA
	TRANSISTOR 2SC3331(U)	QSC3331UNPAA
Q425	RES. BUILT-IN TRANSISTOR KRA103M or	NQSZ0KRA103M
	RES. BUILT-IN TRANSISTOR BN1F4M-T	QQSZ00BN1F4M
Q501	TRANSISTOR KTC3199(BL) or	NQS50KTC3199
	TRANSISTOR 2SC2785(K) or	QQSK02SC2785
	TRANSISTOR 2SC1815-BL(TPE2)	QQS202SC1815
Q506	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22	NPWZM1D32A22
Q760	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q762	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q763	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1001	MOS FET 2SK2662	QF5Z02SK2662
Q1002	TRANSISTOR KTC3199(BL) or	NQS50KTC3199
	TRANSISTOR 2SC2785(K) or	QQSK02SC2785
	TRANSISTOR 2SC1815-BL(TPE2)	QQS202SC1815
Q1003	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1004	TRANSISTOR KTC3202(Y)	NQSY0KTC3202
Q1005	RES. BUILT-IN TRANSISTOR KRC110M-AT or	NQSZ0KRC110M
	RES. BUILT-IN TRANSISTOR BA1L3Z-T	QQSZ00BA1L3Z
Q1006	RES. BUILT-IN TRANSISTOR KRA110M or	NQSZ0KRA110M
	RES. BUILT-IN TRANSISTOR BN1L3Z(P)	QQSP00BN1L3Z
Q1007	TRANSISTOR KTC3205(Y) or	NQSY0KTC3205
	TRANSISTOR 2SC2236-Y-TPE6,C	QQSY02SC2236
Q1008	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1011	TRANSISTOR KTA1273(Y) or	NQSY0KTA1273
	TRANSISTOR 2SA966(Y)	QQSY002SA966
Q1015	RES. BUILT-IN TRANSISTOR KRC103M or	NQSZ0KRC103M
	RES. BUILT-IN TRANSISTOR BA1F4M-T	QQSZ00BA1F4M
Q1201	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1202	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
Q1203	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1204	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
Q1351	TRANSISTOR KTC3199(Y) or	NQSY0KTC3199
	TRANSISTOR KTC3199(GR) or	NQS10KTC3199
	TRANSISTOR 2SC2785(J) or	QQSJ02SC2785
	TRANSISTOR 2SC2785(H) or	QQSH02SC2785
	TRANSISTOR 2SC2785(F) or	QQSF02SC2785
	TRANSISTOR 2SC1815-Y(TPE2) or	QQSY02SC1815
	TRANSISTOR 2SC1815-GR(TPE2)	QQS102SC1815
	RESISTORS	

Ref. No.	Description	Part No.
R001	GLASS GLAZE RES. 1/2W J 3.3M Ω or	RXX2JZLZ0335
	CARBON RES. 1/2W J 3.3M Ω	RCX2335DP001
R037	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R039	PCB JUMPER D0.6-P5.0	JW5.0T
R056	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R057	CARBON RES. 1/6W J 150 Ω or	RCX6JATZ0151
	CARBON RES. 1/4W J 150 Ω	RCX4JATZ0151
R058	CHIP RES.(1608) 1/10W J 180 Ω	RRXAJR5Z0181
R071	CARBON RES. 1/4W J 2.7k Ω	RCX4JATZ0272
R072	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R073	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R075	CARBON RES. 1/6W J 4.7k Ω or	RCX6JATZ0472
	CARBON RES. 1/4W J 4.7k Ω	RCX4JATZ0472
R080	PCB JUMPER D0.6-P5.0	JW5.0T
R082	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R083	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R084	CARBON RES. 1/4W J 6.8k Ω	RCX4JATZ0682
R253	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R254	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R301	CHIP RES.(1608) 1/10W J 560k Ω	RRXAJR5Z0564
R302	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R303	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R304	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R305	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R306	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R307	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R308	CHIP RES.(1608) 1/10W J 270 Ω	RRXAJR5Z0271
R309	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R310	CHIP RES.(1608) 1/10W J 15k Ω	RRXAJR5Z0153
R311	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R312	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R313	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R319	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R320	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R321	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R322	CHIP RES.(1608) 1/10W J 5.6M Ω	RRXAJR5Z0565
R323	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R324	CHIP RES.(1608) 1/10W J 82k Ω	RRXAJR5Z0823
R326	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R327	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R328	CHIP RES.(1608) 1/10W J 680k Ω	RRXAJR5Z0684
R329	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R330	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R331	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R332	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R341	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R342	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R343	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R391	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R392	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R395	PCB JUMPER D0.6-P5.0	JW5.0T
R396	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R397	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R401	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R402	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R407	CHIP RES.(1608) 1/10W J 2.2M Ω	RRXAJR5Z0225
R408	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R409	CHIP RES.(1608) 1/10W J 3.3k Ω	RRXAJR5Z0332
R410	CHIP RES.(1608) 1/10W J 6.8k Ω	RRXAJR5Z0682
R411	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R412	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222

Ref. No.	Description	Part No.
R413	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R414	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R415	CHIP RES.(1608) 1/10W J 12k Ω	RRXAJR5Z0123
R416	CHIP RES.(1608) 1/10W J 330k Ω	RRXAJR5Z0334
R417	CHIP RES.(1608) 1/10W J 150 Ω	RRXAJR5Z0151
R418	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R419	CHIP RES.(1608) 1/10W J 910 Ω	RRXAJR5Z0911
R420	CHIP RES.(1608) 1/10W J 330 Ω	RRXAJR5Z0331
R421	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R422	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R424	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R425	CARBON RES. 1/6W J 100 Ω or	RCX6JATZ0101
	CARBON RES. 1/4W J 100 Ω	RCX4JATZ0101
R426	CARBON RES. 1/6W J 820 Ω or	RCX6JATZ0821
	CARBON RES. 1/4W J 820 Ω	RCX4JATZ0821
R428	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R429	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R451	CHIP RES.(1608) 1/10W J 12k Ω	RRXAJR5Z0123
R452	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R453	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R454	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R455	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R456	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R457	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R458	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R459	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R460	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R461	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R462	CHIP RES.(1608) 1/10W J 8.2k Ω	RRXAJR5Z0822
R463	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R464	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R469	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R470	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R471	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R472	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R473	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R474	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R475	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R477	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R501	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R502	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R504	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R505	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R508	CHIP RES.(1608) 1/10W J 330k Ω	RRXAJR5Z0334
R509	CHIP RES.(1608) 1/10W J 68k Ω	RRXAJR5Z0683
R513	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R514	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R515	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R516	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R517	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R518	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R521	CARBON RES. 1/6W G 4.7k Ω or	RCX6GATZ0472
	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R522	CARBON RES. 1/6W G 1.5k Ω or	RCX6GATZ0152
	CARBON RES. 1/4W G 1.5k Ω	RCX4GATZ0152
R523	CARBON RES. 1/6W G 22k Ω or	RCX6GATZ0223
	CARBON RES. 1/4W G 22k Ω	RCX4GATZ0223
R524	CARBON RES. 1/6W G 470 Ω or	RCX6GATZ0471
	CARBON RES. 1/4W G 470 Ω	RCX4GATZ0471
R525	CARBON RES. 1/6W G 10k Ω or	RCX6GATZ0103

Ref. No.	Description	Part No.
	CARBON RES. 1/4W G 10k Ω	RCX4GATZ0103
R526	CARBON RES. 1/6W G 3.6k Ω or	RCX6GATZ0362
	CARBON RES. 1/4W G 3.6k Ω	RCX4GATZ0362
R528	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R532	CHIP RES.(1608) 1/10W J 390k Ω	RRXAJR5Z0394
R533	CHIP RES.(1608) 1/10W J 390k Ω	RRXAJR5Z0394
R535	CARBON RES. 1/4W J 270 Ω	RCX4JATZ0271
R537	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R538	CHIP RES.(1608) 1/10W J 18k Ω	RRXAJR5Z0183
R542	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R543	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R547	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R548	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R552	PCB JUMPER D0.6-P5.0	JW5.0T
R585	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R586	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R587	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R588	CHIP RES.(1608) 1/10W J 1.5k Ω	RRXAJR5Z0152
R589	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R590	CHIP RES.(1608) 1/10W J 3.9k Ω	RRXAJR5Z0392
R592	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R602	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R604	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R606	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R608	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R612	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R652	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R653	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R654	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R655	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R701	CHIP RES.(1608) 1/10W J 100 Ω	RRXAJR5Z0101
R702	CARBON RES. 1/4W J 1.8k Ω	RCX4JATZ0182
R704	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R705	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R751	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R752	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R754	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R755	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R756	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R757	CHIP RES.(1608) 1/10W J 47k Ω	RRXAJR5Z0473
R758	PCB JUMPER D0.6-P5.0	JW5.0T
R759	PCB JUMPER D0.6-P5.0	JW5.0T
R766	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R767	CARBON RES. 1/6W J 470 Ω or	RCX6JATZ0471
	CARBON RES. 1/4W J 470 Ω	RCX4JATZ0471
R777	CARBON RES. 1/6W J 27k Ω or	RCX6JATZ0273
	CARBON RES. 1/4W J 27k Ω	RCX4JATZ0273
R778	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R779	CARBON RES. 1/6W J 330 Ω or	RCX6JATZ0331
	CARBON RES. 1/4W J 330 Ω	RCX4JATZ0331
R780	CARBON RES. 1/6W J 47k Ω or	RCX6JATZ0473
	CARBON RES. 1/4W J 47k Ω	RCX4JATZ0473
R782	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R783	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R784	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R785	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R786	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R787	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472

Ref. No.	Description	Part No.
R852	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R854	CHIP RES.(1608) 1/10W J 1M Ω	RRXAJR5Z0105
R855	CARBON RES. 1/4W J 560 Ω	RCX4JATZ0561
R856	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R857	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R858	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1002	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1005	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1006	CARBON RES. 1/4W J 1M Ω	RCX4JATZ0105
R1008	CARBON RES. 1/4W J 680 Ω	RCX4JATZ0681
R1010	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1011	METAL OXIDE FILM RES. 1W J 0.82 Ω or	RN01R82ZU001
	METAL OXIDE FILM RES. 1W J 0.82 Ω	RN01R82KE009
R1013	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1019	CHIP RES.(1608) 1/10W F 2.2k Ω or	RRXAFR5H2201
	CHIP RES.(1608) 1/10W F 2.2k Ω	RRXAFR5Z2201
R1020	CHIP RES.(1608) 1/10W J 390 Ω	RRXAJR5Z0391
R1021	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1022	CHIP RES.(1608) 1/10W J 820 Ω	RRXAJR5Z0821
R1023	CHIP RES.(1608) 1/10W F 1.5k Ω or	RRXAFR5H1501
	CHIP RES.(1608) 1/10W F 1.5k Ω	RRXAFR5Z1501
R1025	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1029	CARBON RES. 1/6W J 150k Ω or	RCX6JATZ0154
	CARBON RES. 1/4W J 150k Ω	RCX4JATZ0154
R1031	CARBON RES. 1/6W G 330 Ω or	RCX6GATZ0331
	CARBON RES. 1/4W G 330 Ω	RCX4GATZ0331
R1032	CARBON RES. 1/6W J 1.2k Ω or	RCX6JATZ0122
	CARBON RES. 1/4W J 1.2k Ω	RCX4JATZ0122
R1033	CHIP RES.(1608) 1/10W J 150 Ω	RRXAJR5Z0151
R1034	CARBON RES. 1/4W J 390k Ω	RCX4JATZ0394
R1035	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1036	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1037	CARBON RES. 1/4W J 10k Ω	RCX4JATZ0103
R1038	CARBON RES. 1/6W J 100k Ω or	RCX6JATZ0104
	CARBON RES. 1/4W J 100k Ω	RCX4JATZ0104
R1039	CARBON RES. 1/6W J 470k Ω or	RCX6JATZ0474
	CARBON RES. 1/4W J 470k Ω	RCX4JATZ0474
R1040	PCB JUMPER D0.6-P5.0	JW5.0T
R1042	CARBON RES. 1/4W J 12 Ω	RCX4JATZ0120
R1043	METAL OXIDE FILM RES. 1W J 2.7 Ω or	RN012R7ZU001
	METAL OXIDE FILM RES. 1W J 2.7 Ω	RN012R7KE009
R1044	CHIP RES.(1608) 1/10W J 22k Ω	RRXAJR5Z0223
R1048	METAL OXIDE FILM RES. 2W J 82k Ω or	RN02823ZU001
	METAL OXIDE FILM RES. 2W J 82k Ω	RN02823KE009
R1049	CARBON RES. 1/6W G 4.7k Ω or	RCX6GATZ0472
	CARBON RES. 1/4W G 4.7k Ω	RCX4GATZ0472
R1059	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1068	CARBON RES. 1/4W J 1k Ω	RCX4JATZ0102
R1070	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1077	CARBON RES. 1/6W J 220 Ω or	RCX6JATZ0221
	CARBON RES. 1/4W J 220 Ω	RCX4JATZ0221
R1078	CARBON RES. 1/4W J 180 Ω	RCX4JATZ0181
R1080	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R1081	PCB JUMPER D0.6-P15.0	JW15.0T
R1201	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1202	CHIP RES.(1608) 1/10W J 220k Ω	RRXAJR5Z0224
R1203	CHIP RES.(1608) 1/10W F 12k Ω or	RRXAFR5H1202
	CHIP RES.(1608) 1/10W F 12k Ω	RRXAFR5Z1202
R1204	CHIP RES.(1608) 1/10W F 12k Ω or	RRXAFR5H1202
	CHIP RES.(1608) 1/10W F 12k Ω	RRXAFR5Z1202

Ref. No.	Description	Part No.
R1205	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω	RRXAFR5Z1802
R1206	CHIP RES.(1608) 1/10W F 18k Ω or	RRXAFR5H1802
	CHIP RES.(1608) 1/10W F 18k Ω	RRXAFR5Z1802
R1207	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R1208	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R1209	CHIP RES.(1608) 1/10W F 56k Ω or	RRXAFR5H5602
	CHIP RES.(1608) 1/10W F 56k Ω	RRXAFR5Z5602
R1210	CHIP RES.(1608) 1/10W F 56k Ω or	RRXAFR5H5602
	CHIP RES.(1608) 1/10W F 56k Ω	RRXAFR5Z5602
R1211	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1212	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1221	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1222	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1223	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1224	CHIP RES.(1608) 1/10W J 470 Ω	RRXAJR5Z0471
R1225	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1226	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R1235	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1236	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1237	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1238	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1239	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1240	CHIP RES.(1608) 1/10W J 100k Ω	RRXAJR5Z0104
R1245	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1246	CHIP RES.(1608) 1/10W J 33k Ω	RRXAJR5Z0333
R1247	CHIP RES.(1608) 1/10W J 39k Ω	RRXAJR5Z0393
R1352	CHIP RES.(1608) 1/10W J 1.6k Ω	RRXAJR5Z0162
R1353	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1354	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R1355	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R1356	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1392	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1393	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1394	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1395	CARBON RES. 1/6W G 150 Ω or	RCX6GATZ0151
	CARBON RES. 1/4W G 150 Ω	RCX4GATZ0151
R1401	CHIP RES.(1608) 1/10W F 300 Ω or	RRXAFR5H3000
	CHIP RES.(1608) 1/10W F 300 Ω	RRXAFR5Z3000
R1402	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
R1421	CHIP RES.(1608) 1/10W F 300 Ω or	RRXAFR5H3000
	CHIP RES.(1608) 1/10W F 300 Ω	RRXAFR5Z3000
R1422	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1441	CHIP RES.(1608) 1/10W F 300 Ω or	RRXAFR5H3000
	CHIP RES.(1608) 1/10W F 300 Ω	RRXAFR5Z3000
R1442	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1443	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1461	CHIP RES.(1608) 1/10W F 300 Ω or	RRXAFR5H3000
	CHIP RES.(1608) 1/10W F 300 Ω	RRXAFR5Z3000
R1462	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1481	CHIP RES.(1608) 1/10W F 300 Ω or	RRXAFR5H3000
	CHIP RES.(1608) 1/10W F 300 Ω	RRXAFR5Z3000
R1482	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
R1521	PCB JUMPER D0.6-P5.0	JW5.0T
R2039	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
	SWITCHES	
SW506	LEAF SWITCH LSA-1142-1AU or	SSC0101KB014
	LEAF SWITCH MXS00981MPP0 or	SSC0101MCE02
	LEAF SWITCH LSA-1142AU or	SSC0101KB013
	LEAF SWITCH MXS00052MPP0	SSC0101MCE01
SW507	ROTARY MODE SWITCH SSS-43MD or	SSR0106KB001
	ROTARY MODE SWITCH R8100212	SSR0106U3001
SW521	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW522	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW523	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW524	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW525	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW526	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW701	SLIDE SWITCH SK12D07VG5-L A	SSS0102LY003
SW2011	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2012	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2016	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW2017	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
	MISCELLANEOUS	
2B11	SHIELD ASSEMBLY H9200UD	0VM413279
2B15	BUSH, LED(F) H3700UD	0VM409508
2B33	HEATSINK V2600PZ or	0VM409007A
	HEATSINK V2600PZ	0VM409007A
2L053	S-TIGHT SCREW 3X8 BIND + CHROME or	GBMS3080
	S-TIGHT SCREW 3X8 BIND + CHROME	GBMS3080
AC1001 ⚠	AC CORD A0A0280-007 or	WAC0172LTE04
⚠	AC CORD PB8K9F9110A-057	WAC0172LW008
F1001⚠	FUSE 1A/250V or	PAGA20CW3102
⚠	FUSE 1A/250V	PAGG20CAG102
FH1001	FUSE HOLDER MSF-015	XH01Z00LY001
FH1002	FUSE HOLDER MSF-015	XH01Z00LY001
JC03	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JC11	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JC18	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JC19	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
JK751	RCA JACK MSP-213V1-324 PBSN	JXRL030LY064
JK752	RCA JACK MSP-213V3-324 PBSN	JYRL030LY021
JK756	RCA JACK MSP-382V-12 PBSN	JXRL020LY063
JK1202	RCA JACK(BLACK) MSP-281V2-B	JXRL010LY062
JK1401	S TYPE JACK MDC-050V-2.4	JXEL040LY001
JK1403	RCA JACK MSP-213V1-652 PBSN	JXRL030LY061
T001⚠	PULSE TRANS CSA-SW0091D	LTT00CPSA125
TP301	PCB JUMPER D0.6-P7.5	JW7.5T
TP302	PCB JUMPER D0.6-P6.5	JW6.5T
TP303	PCB JUMPER D0.6-P7.5	JW7.5T
TP502	PCB JUMPER D0.6-P5.0	JW5.0T
TP505	PCB JUMPER D0.6-P7.5	JW7.5T
TP506	PCB JUMPER D0.6-P19.0	JW19.0T
TP507	PCB JUMPER D0.6-P13.5	JW13.5T
TP751	PCB JUMPER D0.6-P10.0	JW10.0T
VR501	CARBON P.O.T. 100k Ω B	VRCB104HH014
W003	FFC CABLE, 26P FFC/P1.00/190	WX1H9200-003
W004	FFC CABLE, 18P FFC/P1.00/160	WX1H9200-004

Ref. No.	Description	Part No.
W005	FFC CABLE, 10P FFC/P1.25/175	WX1H9200-005
W009	PARALLEL WIRE, 10P AWG26#2651/P2.0/65	WX1H9200-009
W011	FFC CABLE, 10P FFC/P1.00/180	WX1H9200-011
W022	WIRE 075/BRO/AWG26#1007	WX1H9200-022
W023	WIRE 195/BRO/AWG26#1007	WX1H9200-023
X301	X'TAL 3.579545MHz(20PPM) or	FXC355LLN003
	X'TAL 3.579545MHz(20PPM) or	FXC355LCHE01
	X'TAL 3.579545MHz(20PPM) or	FXC355LDS001
	X'TAL 3.579545MHz(20PPM)	FXC355LJNY01
X502	X'TAL 32.768kHz(20PPM) or	FXC323LQUA01
	X'TAL 32.768kHz(20PPM) or	FXC323LCT001
	X'TAL 32.768kHz(20PPM)	FXC323LDS002
TU701	TUNER UNIT VD045AS	UTUNNTUSP022
TU701	TUNER UNIT TMZH2-001A (TU701 Used only if J306, J307, J308 and J311 are used.)	UTUNNTUAL030
J306	PCB JUMPER P12.5MM (Used TU701: Part No. UTUNNTUAL030)	JW12.5
J307	PCB JUMPER P17.5MM (Used TU701: Part No. UTUNNTUAL030)	JW17.5
J308	PCB JUMPER P5.0MM (Used TU701: Part No. UTUNNTUAL030)	JW5.0
J311	PCB JUMPER P10.0MM (Used TU701: Part No. UTUNNTUAL030)	JW10.0

FUNCTION CBA

Ref.No.	Description	Part No.
	FUNCTION CBA(MVC-B) Consists of the followings	----------
	CAPACITORS	
C2001	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C2002	CHIP CERAMIC CAP. B K 1000pF/50V	CHD1JK30B102
C2004	ELECTROLYTIC CAP. 100μF/6.3V H7	CE0KMAVSL101
C2008	ELECTROLYTIC CAP. 22μF/50V M H7	CE1JMAVSL220
C2012	CHIP CERAMIC CAP. F Z 0.1μF/50V or	CHD1JZ30F104
	CHIP CERAMIC CAP. F Z 0.1μF/25V or	CHD1EZ30F104
	CHIP CERAMIC CAP. FZ Z 0.1μF/50V	CHD1JZ3FZ104
C2055	ELECTROLYTIC CAP. 22μF/50V M H7	CE1JMAVSL220
	CONNECTOR	
CN2001	FMN CONNECTOR, SIDE 10P 10FMN-STK	JCFNG10JG003
	DIODES	
D2001	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2003	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
D2004	SWITCHING DIODE 1N4148M or	NDTZ01N4148M
	SWITCHING DIODE 1SS133(T-77)	QDTZ001SS133
	ICS	
IC2001	FL DRIVER IC PT6315-S(-TP) or	NSZBA0TG2002
	FL DRIVER IC PT6315-S	NSZBA0SG2002
	COILS	
L2001	INDUCTOR 100μH-K-26T	LLAXKATTU101
L2002	PCB JUMPER D0.6-P5.0	JW5.0T
L2003	PCB JUMPER D0.6-P5.0	JW5.0T
	TRANSISTORS	
Q2022	TRANSISTOR KTA1266(GR) or	NQS40KTA1266
	TRANSISTOR 2SA1015-GR(TPE2)	QQS102SA1015
	RESISTORS	
R1041	PCB JUMPER D0.6-P5.0	JW5.0T
R2001	CHIP RES.(1608) 1/10W J 56k Ω	RRXAJR5Z0563
R2002	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2003	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2005	CHIP RES.(1608) 1/10W J 4.7k Ω	RRXAJR5Z0472
R2006	CHIP RES.(1608) 1/10W J 220 Ω	RRXAJR5Z0221
R2010	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R2011	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2031	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R2032	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R2034	CHIP RES.(1608) 1/10W J 2.2k Ω	RRXAJR5Z0222
R2037	CARBON RES. 1/6W J 10 Ω or	RCX6JATZ0100
	CARBON RES. 1/4W J 10 Ω	RCX4JATZ0100
R2038	CHIP RES.(1608) 1/10W J 10k Ω	RRXAJR5Z0103
R2059	CHIP RES.(1608) 1/10W 0 Ω	RRXAZR5Z0000
	SWITCHES	
SW2014	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
	MISCELLANEOUS	
FL2001	V.F.D. 20U29100SAN	TVFD150FT007
RM2001	REMOTE RECEIVER PIC-37042LU	USESJRSKK033

JACK CBA

Ref.No.	Description	Part No.
	JACK CBA(MVC-C) Consists of the followings	----------
	CONNECTOR	
CN651	FE CONNECTOR, TOP 10P 10FE-BT-VK-N	JCFEJ10JG001
	DIODES	
	LED EXCLUSIVE(A)	
D652	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D653	LED(GREEN) 204-10GD/S957	NPQZ10GDS957
D654	LED(RED) 204HD/E	NPQZ00204HDE
D655	LED(RED) 204HD/E	NPQZ00204HDE
	LED EXCLUSIVE(B)	
D652	LED(GREEN) LTL-4231N	NPQZLTL4231N
D653	LED(GREEN) LTL-4231N	NPQZLTL4231N
D654	LED(RED) LTL-4211N	NPQZLTL4211N
D655	LED(RED) LTL-4211N	NPQZLTL4211N
	RESISTORS	
R656	CHIP RES.(1608) 1/10W J 1.8k Ω	RRXAJR5Z0182
R657	CHIP RES.(1608) 1/10W J 1k Ω	RRXAJR5Z0102
R658	CHIP RES.(1608) 1/10W J 1.2k Ω	RRXAJR5Z0122
R753	CHIP RES.(1608) 1/10W J 75 Ω	RRXAJR5Z0750
	SWITCHES	
SW651	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW652	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW654	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
SW655	TACT SWITCH KSM0614B or	SST0101HH013
	TACT SWITCH SKQSAF001A	SST0101AL041
	MISCELLANEOUS	
2B13	BUSH, LED(E) H1600UD	0VM408832
2L052	P-TIGHT SCREW 3X8 BIND +	GBMP3080
JK753	RCA JACK(YELLOW) MTJ-032-04B-20	JXRJ010LY020
JK754	RCA JACK(WHITE) MTJ-032-04B-22	JXRJ010LY022
JK755	RCA JACK(RED) MTJ-032-04A-21	JYRJ010LY021

SENSOR CBA

Ref.No.	Description	Part No.
	SENSOR CBA Consists of the followings	0VSA12518
Q503	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22	NPWZM1D32A22
Q504	PHOTO TRANSISTOR PT204-6B-12 or	NPWZT2046B12
	PHOTO TRANSISTOR MID-32A22	NPWZM1D32A22

DECK PARTS LIST

Note: There are two different, but interchangeable types of CLEANER LEVER(B359) in this model, and have different combination with B361. Please see Table 1 for details and combination.

Table 1 (B359 and B361 Combination)

B359 CLEANER LEVER		B361
Type	ID No.	ID No.
A	0VM304413	0VM411114
B	0VM305090	Not used

Ref.No	Description	Part No.
B2	CYLINDER ASSEMBLY MK11 NTSC 4HD HIFI	N1468CYL
	CYLINDER ASSEMBLY(V) MK11 NTSC 4HD HIFI	N1469CYL
B3	LOADING MOTOR ASSEMBLY MK11	0VSA12093
B8	PULLEY ASSEMBLY MK11	0VSA12078
B9	MOVING GUIDE S PREPARATION MK10	0VSA11002
B10	MOVING GUIDE T PREPARATION MK10	0VSA11004
B11	LOADING ARM T(B) ASSEMBLY MK11	0VSA12110
B12	LOADING ARM S(B) ASSEMBLY MK11	0VSA12109
B27	TENSION LEVER SUB ASSEMBLY MK11	0VSA12076
B31	AC HEAD ASSEMBLY MK11	0VSA12074
B35	TAPE GUIDE ASSEMBLY MK11	0VSA12069
B37	CAPSTAN MOTOR 288/VCCM011	N9660CML
B52	CAP BELT MK10	0VM411138
B73	FE HEAD ASSEMBLY MK11 or	N9742FEL
	FE HEAD(MK11) MH-131SF11 or	DHVEC01Z0005
	FE HEAD ASSEMBLY MK11	N9743FEL
B74	PRISM MK10	0VM202870
B121	WORM MK11	0VM412544
B126	PULLEY MK11	0VM412543
B133	IDLER ASSEMBLY MK10	0VSA11017
B148	TG CAP MK11	0VM412972
B300	C DRIVE LEVER R MK11	0VM305068
B303	F DOOR OPENER MK11	0VM203299
B347	GUIDE HOLDER A MK10	0VM304920
B354	SLIDER R MK11	0VM101040
B355	SLIDER L MK11	0VM203296
B359	CLEANER LEVER MK10 or	0VM304413
	CLEANER LEVER MK11	0VM305090
B360	CLEANER ROLLER MK9	0VM410032C
B361	CL POST MK10	0VM411114
B410	PINCH ARM(A) ASSEMBLY MK11	0VSA12064
B411	PINCH SPRING MK10	0VM411092
B414	M BRAKE S ASSEMBLY MK11	0VSA12211
B416	M BRAKE T ASSEMBLY MK11	0VSA12212
B417	TENSION SPG(190265) MK11	0VM412984
B425	LOCK LEVER SPRING MK10	0VM411110
B426	KICK PULLEY MK10	0VM411095
B482	C PLATE MK11	0VM203297
B483	LOCK LEVER MK10	0VM411109D
B487	BAND BRAKE MK10	0VM304416B
B488	MODE LEVER MK11 or	0VM101043
	MODE LEVER(PB) MK11	0VM101112
B491	CAM GEAR(A) MK11	0VM101044
B492	MODE GEAR MK11	0VM305074

Ref.No	Description	Part No.
B494	DOOR OPENER B MK11	0VM305072
B499	T LEVER HOLDER MK10	0VM304419
B501	WORM HOLDER MK11	0VM305067
B502	CAM GEAR(B) MK10	0VM304403
B505	PSCW(625504) MK11	0VM413288
B507	REEL WASHER MK9 5*2.1*0.5	0VM410058
B508	S BRAKE SPRING MK10	0VM411121
B513	PSCW(752605) MK10	0VM411516
B514	SCREW RACK MK11	0VM412597
B516	REEL WASHER MK9 5*2.1*0.5	0VM410058
B518	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B520	T BRAKE SPRING MK10	0VM411123
B521	SOFT SPRING MK10	0VM411122
B522	TG POST ASSEMBLY MK11	0VSA12080
B525	LDG BELT MK11	0VM412804
B529	CLEANER ASSEMBLY MK11	0VSA12086
B551	FF ARM MK11	0VM305069
B553	REV SPRING MK11	0VM412555
B555	RACK ASSEMBLY MK11	0VSA12071
B557	MOTOR PULLEY U5	0VM403205A
B558	LOADING MOTOR M31E-1 R14 7351	MMDZB12MM002
B559	CLUTCH ASSEMBLY MK11	0VSA12350
B560	KICK SPRING MK10	0VM411475A
B562	C DRIVE LEVER L MK10	0VM304408
B563	SLIDER SHAFT MK10	0VM411112
B564	M GEAR MK10	0VM411136E
B565	SENSOR GEAR MK11	0VM305080
B567	PINCH ARM(B) MK10	0VM304396
B568	BT ARM MK10	0VM304417H
B569	CAM HOLDER F MK11	0VM305075
B570	CAM RACK SPG MK10	0VM411102
B571	P.S.W F 6*2.55*0.5	0VM402629A
B572	P.S.W CUT 1.6X4.0X0.5T	0VM408485A
B573	REEL S MK11	0VM203436
B574	REEL T MK10	0VM202872C
B585	PSW(2957505) MK11	0VM412745
L1051	SCREW, B-TIGHT M2.6X6 PAN HEAD+	GPMB9060
L1053	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1151	SCREW, SEMS M2.6X4 PAN HEAD+	CPM39040
L1191	SCREW, S-TIGHT M2.6X8 WASHER HEAD+	GCMS9080
L1321	SCREW, S-TIGHT M3X6 BIND HEAD+	GBMS3060
L1341	SCREW, P-TIGHT M2.6X6 BIND HEAD+	GBMP9060
L1406	AC HEAD SCREW MK9	0VM410964
L1450	SCREW, SEMS M2.6X5 PAN HEAD+	CPM39050
L1461	SCREW, P-TIGHT M2.6X6 WASHER HEAD+	GCMP9060
L1466	SCREW, S-TIGHT M2.6X6 BIND HEAD+	GBMS9060
L1467	SCREW, S-TIGHT M2.6X5 WASHER HEAD+	GCMS9050
L1468	SCREW, B-TIGHT M1.7X12	GAMB7120

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Printed in Japan
2002-03-22 HO